# *Appendix B – Biological Resources*

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## B.1 Introduction

This appendix contains a strategy for how public lands will be managed to contribute to the conservation of special status species in the Bakersfield Field Office (FO) Decision Area in general and in the Southern San Joaquin Valley specifically. Also, specific biological resource information including a detailed overview of plant and animal species and natural communities and specific species accounts for special status species (federal and state listed and California BLM sensitive) are presented to supplement the information in the affected environment (Chapter 3, Section 3.2).

## B.2 Conservation Strategy

The scattered pattern of public lands in the Decision Area provides numerous opportunities for public lands to contribute to local and regional conservation programs. The BLM will seek out partnerships with other public and private entities to conserve and recover landscapes, natural communities, special status species, and other important biological resources. Examples of focal areas for specific special status species and their habitats are Los Osos, Hopper Mountain, Bitter Creek, South Fork of the Kern River, Table Mountain and Kennedy Table, Atwell Island, Lokern-Buena Vista Valley, Kettleman Hills, Caliente Creek, and Cyrus Canyon. Other efforts focus on natural landscapes, assemblages of species and communities, and biological resources of regional importance. Areas with these focuses are the Irish Hills, the Tulare Lake Basin, the Salinas River, and the Tehachapi Linkage. The BLM will manage public lands to contribute to the objectives of local and regional conservation plans, where external objectives are consistent with the management objectives of this plan.

### Background

Public land in the San Joaquin Valley portion of the Bakersfield FO constitutes a substantial amount of the remaining natural land in the southern San Joaquin Valley. These natural lands provide important habitat for several federal and state listed plant and animal species, as well as many other species that are endemic to the region.

The Endangered Species Act of 1973 mandates that federal agencies, including the BLM, utilize their authorities to further the purposes of the ESA by carrying out programs for the conservation and recovery of threatened and endangered species. BLM policy, as stated in the BLM Manual 6840, and policy statements, such as BLM's Fish and Wildlife 2000, further guides how BLM will manage public lands to meet the mandate for conservation programs and multiple uses of public land resources.

The Endangered Species Act also directs the USFWS to develop recovery plans for threatened and endangered species. These recovery plans provide the strategy that all agencies and organizations can implement to ensure a coordinated and comprehensive approach to species conservation and recovery. In 1998 the USFWS completed *the Recovery Plan for Upland Species of the San Joaquin Valley, California* (USFWS 1998). This multispecies recovery plan provides a framework for recovery efforts within the San Joaquin Valley. Local governments, industry, private landowners and local offices of state and federal agencies determine how the regional recovery and conservation framework could be implemented for their jurisdiction. Part of the concept is to develop local plans, such as for the Southern San Joaquin Valley, for consistent application by local, state, and federal governments within the local planning area. BLM managed public land in the Southern San Joaquin Valley plays a key role in the recovery plan and in many of these local plans. This section describes the San Joaquin Valley recovery plan strategy and

addresses how the regional recovery and conservation framework will be implemented by BLM in coordination with these local plans.

### *San Joaquin Valley Recovery Plan Conservation Strategy*

The *Recovery Plan for Upland Species of the San Joaquin Valley, California*, uses an ecosystem-level strategy to address recovery and conservation of 11 listed species and 23 additional special status species. The strategy includes several elements that relate to the management of public land:

- The primary focus of recovery should be on publically owned lands;
- Conservation efforts should focus on fewer larger blocks of land rather than smaller more numerous parcels;
- Blocks of conservation lands should be connected by natural land or land with compatible uses that allow for movement between blocks;
- Emphasis should be placed on the San Joaquin kit fox as an umbrella species. Since most other species require less habitat, fulfilling the management and habitat needs of the San Joaquin kit fox will also meet the needs of many other species;
- The giant kangaroo rat and San Joaquin kangaroo rat are keystone species in their communities. Protection of these keystone species should be a high priority since they provide an important or essential function for many other listed and special status species;
- Uses and actions on public land, such as livestock grazing, oil, gas, and mineral exploration and extraction, hunting, and recreation should occur so as minimize degradation of habitat for special status species;
- Use specialty preserves or small reserves to manage species with highly restricted geographic ranges or specialized habitat requirements or that are vulnerable to traditional land uses;
- Target existing natural lands occupied by special status species over unoccupied natural land and retired farm land for conservation;
- Coordinate carefully agricultural land retirement with endangered species recovery for species where sufficient occupied natural land does not exist, but where it is needed to increase population size or promote movement between populations;
- Enhance landscape features that allow successful survival and movement from population centers on the valley floor to the valley perimeter for species such as the kit fox that can live in or move through the farmland matrix; and
- Implementing the recovery plan should be complementary to existing and future habitat conservation plans.

The foundation of the regional conservation strategy is a system of reserves and connecting corridors. Through assessments of remaining natural land habitats, a reserve system concept was developed to conserve the best remaining habitats of the San Joaquin Valley natural communities (USFWS 1998). Several large keystone reserves, several small specialty reserves, and connecting corridors linking many of the reserves have been established or proposed. The large reserves are intended to maintain and conserve multiple plant and animal listed species as a natural community, while the small reserves are designed to conserve a particular species or unique natural feature. These reserves would be managed for long-term conservation of the listed plants and animals and the natural communities on which they

depend, but would allow for a variety of land uses managed in a compatible manner. Both large and small reserves are necessary to conserve the valley's biological resources.

Reserves include both large multispecies reserves and small specialty reserves that would be managed *primarily* for listed plants and animals. While other compatible resource uses could occur, habitat quality and species' populations would be maintained through implementing specific design features for these resource uses. Management of the reserves would be assured by fee acquisition, by federal, state, or local agencies, chartered conservation organizations, conservation easements, or long-term cooperative agreements with landowners. The goal is to maintain a certain percentage of the native lands as high quality habitat and to rehabilitate lands with nonnative species as they become available for purchase, easement, or agreement. A threshold for habitat disturbance from energy mineral development, roads, and facilities would be established. Reserves and connecting corridors would have different thresholds for habitat disturbance. Compensation for new habitat disturbance within the threshold would be at a standard rate for uses that are considered permanent habitat loss and at another standard rate for temporary habitat loss. Compensation is generally in the form of preserving additional habitat to make up for the loss of habitat associated with approved projects.

Connecting corridors are composed of native and agricultural lands to be managed for maintaining interchange and gene flow between the primary reserves and for maintaining supplemental populations between reserves. Emphasis is to maintain a certain percentage of native lands as moderate- to high-quality habitat and to maintain a certain percentage of the agricultural lands in agricultural production or fallow. A certain percentage of these lands would be available for urban, industrial, or other land uses that are considered permanent habitat loss. Land use design would maintain corridor integrity as extant habitat and for wildlife movements. Permanent habitat loss from urban-industrial uses would not sever wildlife corridors. Compensation for habitat loss in corridors would be directed to the reserve areas; however, limited compensation could be directed back to the corridor. The compensation ratio is the same as for reserves. Corridors would not normally involve purchase but would be secured through conservation easements and agreements. However, some parcels essential to maintain corridors or buffers may need to be purchased.

As part of the recovery plan (USFWS 1998), a generalized reserve system map has been developed that identifies the keystone reserves, small specialty reserves, and connecting corridors. A number of reserves and connecting corridors are targeted for protection in the recovery plan; several of which contain or are next to public lands within the Decision Area: Elk Hills and Buena Vista Valley, Western Kern County (including Lokern), Pixley National Wildlife Refuge (NWR)/Allensworth Natural Area, Kettleman Hills, Kern NWR/Semitropic Ridge Natural Area, Upper Cuyama Valley/Santa Barbara Canyon, Bitter Creek NWR, Devil's Den, Lost Hills-Buena Vista Slough, and Caliente Creek.

On native lands outside the reserve and corridor system, management for the retention of habitat values has not been the focus. Most of these lands have some habitat value, and many of these areas may be valuable sources of plant and animal populations in the short term. Most of these values will continue to exist, unless there are dramatic changes in current land uses.

### *Bakersfield FO Conservation Program*

Land use plan decisions in this RMP are designed to be consistent with BLM's mandate to utilize its authorities to conserve and recover listed species, and to be consistent with the objectives and recommended actions in approved recovery plans (including the *Recovery Plan for Upland Species of the San Joaquin Valley*), conservation strategies, MOUs, and applicable biological opinions. To promote

consistency, BLM has taken into consideration and adopted certain terms and concepts from the San Joaquin Valley recovery plan and its regional conservation strategy.

Within the landscape of the San Joaquin Valley regional conservation strategy, some BLM-administered lands are located within the boundary of a number of reserve areas, habitat corridors, and specialty preserves. While BLM land management authorities do not recognize these terms, based on direction in the BLM Land Use Planning Handbook (H-1610-1, Appendix C), the BLM-administered lands currently found within the boundaries of reserves and corridors are identified as ecologically important areas in this RMP (labeled "Conserved Lands"). In addition, some of these areas are proposed for designation as Areas of Critical Environmental Concern (ACECs): Ancient Lakeshores, Compensation Lands, Kettleman Hills, Lokern-Buena Vista, and Upper Cuyama Valley, based on their relevant and important resource values and need for special management attention (see Chapter 3 of the FEIS).

The BLM will manage its public lands in the reserves and corridors (see Map 3.2.1) for the long-term conservation of listed plants and animals and the natural communities on which they depend, while still allowing compatible land uses. Also, the BLM will retain and manage additional lands acquired for conservation, whether by appropriations, donation, exchange, transfer, or compensation in a manner consistent with the terms of the acquisition or consistent with surrounding BLM land management. If compensation lands are acquired by BLM, such as through donation or transfer, they would be recommended for ACEC consideration if there is evidence that the area meets the relevance and importance criteria. Upon completion of NEPA, public review and a plan amendment, they would become part of the Compensation Lands ACEC.

A key component of the reserve and corridor linkage strategy is to maintain suitable amounts of habitat that are largely undisturbed by development activities. Habitat disturbance thresholds are criteria for maintaining long-term suitability of reserve areas (red zones) and habitat corridors (green zones). Limiting the amount of habitat (and ground) disturbance will allow sufficient habitat to remain intact, keep ecosystem processes functioning properly, and connect viable species populations across the landscape. Within the reserve areas (generally Lokern-Buena Vista ACEC and portions of Compensation Lands and Upper Cuyama Valley ACECs), habitat disturbance is limited to 10% of the surface area of individual BLM parcels or 10% of adjoining BLM parcels. Parcels that adjoin only at one corner are considered separate parcels. Most remaining public lands within the southern San Joaquin Valley have been identified in the regional conservation strategy as connecting corridors. The BLM would manage public lands in these corridors as links between reserve areas. In the corridor areas, habitat disturbance is limited to 25% of the surface area of individual BLM parcels or 25% of adjoining BLM parcels.

In addition to limiting habitat disturbance, BLM's goal is to maintain or add to the amount of secured lands within the reserve or corridor system so that species can be downlisted or delisted. In order to meet this goal, the BLM requires the following compensation ratios:

- Permanent habitat loss = 3:1
- Temporary habitat loss = 1.1:1
- Within the western Kern County kit fox core area = an additional 1:1
- Vernal pool habitat = 5:1, with a replacement element

In addition to compensation, BLM requires an additional 1:1 replacement of habitat when ground disturbance occurs on public land within reserves or corridors. This replacement is in addition to any compensation that is required as a result of permanent or temporary habitat loss. BLM's compensation

ratios are consistent with compensation ratios established by USFWS and Department of Fish and Game for the San Joaquin Valley listed species. BLM may modify compensation ratios and requirements in collaboration and coordination with USFWS and Department of Fish and Game.

Over time, BLM, in collaboration and cooperation with the wildlife agencies, may need to reconfigure the reserve and corridor design and boundaries based on new information or changing environmental conditions. This new information or these changing environmental conditions and any potential resulting reconfiguration may require additional land use planning and RMP amendment. BLM may also identify certain areas of high intensity oil and gas development within reserves and corridors and manage them separately. The Bakersfield FO's policy is to conserve lands outside the reserve and corridor system because they serve as important remnants of listed species habitat and natural communities and, therefore, may manage areas outside the reserve and corridor system as corridors. BLM may also reposition public lands to meet reserve and corridor design changes so long as ownership or management changes do not reduce the amount of BLM land in reserves or corridors.

The BLM has been an active partner in implementing the *Recovery Plan for Upland Species of the San Joaquin Valley, California*. The BLM has contributed toward inventorying and monitoring, conducting research, enhancing habitat, acquiring and restoring land, and protecting habitat. When authorizing, funding or carrying out activities, BLM's policy is to first apply on-site mitigation to avoid or minimize project impacts to biological resources, especially special status species. When on-site mitigation alone is insufficient, off-site mitigation, such as compensation, is also required. The BLM has been responsible for over fifteen hundred acres of off-site habitat compensation to be acquired and protected. In collaboration with the USFWS, CDF&G, species experts, and other biologists, BLM has cooperatively developed a number of survey, avoidance, mitigation, compensation, monitoring, and reporting protocols. BLM has determined that implementation of these protocols is in the best interest of public land management.

## *B.3 Biological Resources Overview*

### *Vegetation*

The presence of a plant community at a site is the combined function of precipitation patterns, soil characteristics, aspect, site disturbance history, and land uses. North-facing slopes have more water and support vegetation with higher water requirements, such as woodlands, while drier adjacent south-facing slopes are covered with scrub communities or grassland. Rare soils often host unique vegetation. Disturbances such as fire and invasions of non-native species from ground disturbances may work jointly to convert oak woodlands or chaparral scrub communities to grasslands dominated by non-native species (Brooks 1999). Grazing facilitates conversion of scrub communities to non-native grasslands (Sankary and Barbour 1972; Twisselmann 1956; USFWS 1998) and deterioration of oak woodlands (Dahlgren et al. 1997; Hall et al. 1992; Pavlik et al. 1991). Roads and other infrastructure often alter water flow in watersheds and change the distribution and patterns of vegetation. Climate change appears to shift precipitation patterns and temperature regimes and subsequently alter the composition and structure of plant communities. Overall, the Decision Area is expected to be hotter and drier (Christensen et al. 2007), and vegetation communities are expected to respond accordingly (Kueppers et al. 2005).

## *Vegetative Communities*

Multiple vegetation alliances (Sawyer and Keeler-Wolf) occur within the Decision Area. These alliances are best grouped into more generalized vegetation communities because of their high diversity. Overall, vegetation on public lands is forms oak woodlands, conifer woodlands, grasslands, chaparral, scrubland, or riparian communities. A number of less common specialized alliances of vegetation are associated with unusual soils, such as those derived from serpentinite, wind-deposited dune sands, soils with high alkali content, or soils underlain by impermeable clays. Besides the four grassland alliances dominated by introduced grasses, there are three additional alliances where invasive exotic plants outcompete the native flora.

### *OAK WOODLAND*

On public lands within the RMP decision area, there are 11 tree alliances that have oak as a major component. Dominant oaks in these tree alliances include, black oak (*Q. kelloggii*), blue oak (*Q. douglasii*), canyon live oak (*Q. chrysolepis*), coast live oak (*Q. agrifolia*), interior live oak (*Q. wislizeni*), and valley oak (*Q. lobata*). These oak woodlands generally have grass- or herb-dominated understories, sometimes have chaparral elements as associated species, and may contain other hardwoods, such as California buckeye (*Aesculus californica*) and California bay laurel (*Umbellularia californica*), or conifers, such as foothill (gray) pine (*Pinus sabiniana*). As elsewhere in California, oak regeneration appears depressed. Factors contributing to the general decline in oaks include grazing effects, competition and fires associated with introduced annual grasses, and predation by pigs and gophers (Bartolome 1987; Borchert et al. 1989; Dahlgren et al. 1997; Hall et al. 1992; Pavlik et al. 1991; Rousset and Lepart 2000). Deer have also been shown to depress the growth of small oaks (Pavlik et al.1991; Ripple and Beschta 2008). Oak vegetation is particularly well represented in the Coast and Sierra Regions, with only a small amount found in the Valley Region.

### *CONIFER WOODLAND*

Within the RMP decision area are 15 vegetation alliances dominated by Bishop pine (*Pinus muricata*), Coulter pine (*P. coulteri*), foothill (gray) pine, Jeffrey pine (*P. jeffreyi*), ponderosa pine (*P. ponderosa*), piñon pine (*P. edulis*), incense cedar (*Calocedrus decurrens*), Sargent cypress (*Cupressus sargentii*), California juniper (*Juniperus californica*), giant sequoia (*Sequoiadendron giganteum*), Santa Lucia fir (*Abies bracteata*), and white fir (*A. concolor*). Most of these communities are either in the Coast or Sierra Regions, but the foothill pine alliance is present in both Coast and Sierra Regions, while the California juniper alliance is present in both Valley and Sierra Regions. Understory species are similar to those in the oak woodlands. Oaks and other hardwoods may also be components. Conifer woodland habitats in the RMP decision area fall within three roughly defined groups: 1. Relatively moist sites at higher elevations in the Sierra Nevada (giant sequoia, incense cedar, and Jeffrey and ponderosa pines), 2. Relatively dry slopes in the Sierra Nevada and Coast Ranges (piñon pine (Sierra Nevada only), California juniper, and to a lesser extent, foothill and Coulter pines), and 3. Sites with specialized soils or supporting small remnant populations of previously more widespread species (Bishop pine, Santa Lucia fir, and Piute (*Cupressus arizonica* spp. *Nevadensis*) and Sargent cypress). The drier types of conifer woodland often have bare or sparsely vegetated soils between the trees. Fire, grazing, the spread of invasive non-native plants, climate change, and disease outbreaks indirectly caused by insects have altered conifer woodlands.

### *RIPARIAN WOODLAND*

Eight riparian tree alliances are present on public lands in the RMP decision area. Dominant trees are willows (*Salix* spp.), cottonwoods (*Populus* spp.), ashes (*Fraxinus* spp.) and California sycamores (*Platanus racemosa*). All alliances are associated with water-saturated soils. Although not very prominent in coverage, they are important biologically by providing food, water, habitat, and cover for wildlife, by protecting stream banks from erosion, and by preventing sedimentation in waterways. Most riparian woodland alliances are present in all three regions. Associated species include a number of herbaceous obligate wetland species such as rushes (*Juncus* spp.), sedges (*Carex* spp.), and spikerushes (*Eleocharis* spp.). Human activities, including water diversion, pollution, and habitat destruction from grazing have significantly affected riparian areas. Invasive species, such as tamarisk (*Tamarix* spp.), have also been a problem in some areas.

### *HARDWOOD WOODLAND*

There are only four non-oak hardwood alliances within the RMP decision area and they form only a small portion of the overall vegetation. Dominant species include California bay, California buckeye, California walnut (*Juglans californica*), and tree-sized birchleaf mountain-mahogany (*Cercocarpus montanus* var. *glaber*). All four series are present in the Coast Region, while the mountain-mahogany and buckeye series are also present in the Sierra Region. Understories are similar to the oak alliances.

### *DESERT WOODLAND*

There is only a single desert woodland alliance present on public lands in the RMP decision area, dominated by mesquite (*Prosopis* spp.) and found in small amounts in the Valley Region. The presence of mesquite in the San Joaquin Valley appears to be a recent development (approximately 120 years ago) and is probably associated with the historical passage of livestock through the valley (Holland 1987, 1988).

### *CHAPARRAL*

Twenty-eight shrub alliances fall under the general heading of chaparral. These alliances are dominated or co-dominated by ceanothus (*Ceanothus* spp.) (12), manzanita (*Arctostaphylos* spp.) (7), scrub oak (*Quercus* spp.) (4), redshank (*Adenostoma sparsifolium*) (3), chamise (*A. fasciculatum*) (6), or oceanspray (*Holodiscus discolor*) (1). The chaparral alliances tend to be dense, growing 6 to 20 feet high, and are found in areas drier than woodlands but moister than grasslands. Chaparral shrubs often possess drought-tolerant adaptations like sclerophyllous leaves, and many species, shrubs and herbs alike, are adapted to recurring fires. Fire adaptations include stump-sprouting and fire-induced seed germination. Chaparral communities usually have a herbaceous “fire-follower” flora that appears after fires and diminishes or disappears altogether as the shrub component regenerates. Chaparral vegetation is diverse and well developed in the Coast and Sierra Regions. A few alliances are present within the western Valley Region. Loss of habitat due to development, changing fire regimes due to human activities, invasion by introduced annual grasses, and grazing have altered many chaparral communities.

### *COASTAL SCRUB*

Smaller drought-deciduous shrubs, such as sage (*Salvia* spp.), California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), coyote bush (*Baccharis pilularis*), and California brittlebush (*Encelia californica*) dominate the seven shrub alliances in the Coast Region . Bare ground is common around many shrubs due to from germination-inhibiting chemicals produced in the leaves (allelopathy). A robust flora of herbaceous understory species occurs in many coastal scrub communities where gaps in shrub cover occur. Many species also have fire adaptations, such as stump-sprouting. Much coastal scrub habitat in California has been lost due to development and grazing.

Invasive annual grasses and shorter fire return intervals are also a concern because they convert coastal scrub communities to grasslands dominated by introduced species.

### *ALKALI SCRUB*

Six alliances of alkali scrub vegetation are present, all within the Valley Region. Soils with a high alkali or salt content host alkali scrub and shrubs in the goosefoot family (Chenopodiaceae) predominate, primarily saltbush (*Atriplex* spp.) but also greasewood (*Sarcobatus vermiculatus*) and iodine bush (*Allenrolfea occidentalis*). The level of salt in the soil affects the vegetation community; higher salinity tends to favor iodine bush over saltbush. The extent of these communities in the San Joaquin Valley has greatly diminished due to the conversion of large amounts of alkali scrub to agriculture and oil field development. Fire, overgrazing, and vehicle trespass have also been responsible for habitat loss. Most of these communities are rare and provide important habitat for sensitive animal species in the San Joaquin Valley. Public land plays an important role in conserving these rare habitats.

### *RIPARIAN SHRUB*

Four alliances of riparian shrub vegetation are present, dominated by willow species, arrowweed (*Pluchea sericea*), mulefat (*Baccharis salicifolia*), or buttonwillow (*Cephalanthus occidentalis*). These riparian shrub communities are within all the regions, except for the arrowweed alliance, which is only in the Coast Region. All riparian shrub communities are characterized by saturated soils and have willow as a major component. Changes and threats to this type of vegetation are similar to those of the woodland riparian alliance.

### *WEED-DOMINATED SHRUB*

Two alliances are dominated by non-native shrubs (broom [*Cytisus* spp., *Genista* spp.] and tamarisk (*Tamarix* spp.). Tamarisk is a concern only in the Valley Region. Broom is a concern in the Sierra Region, although it is also a problem within the Coast Region but is not present on public lands.

### *MISCELLANEOUS SHRUB*

The remaining eight shrub alliances on public lands within the RMP decision area do not readily fall into one convenient grouping. The rubber rabbitbrush (*Ericameria nauseosa*) and scalebroom (broomsage) (*Lepidospartum squamatum*) alliance are found in disturbed habitats, such as washes and roadsides and are often early successional communities. Others are dominated by distinctive elements (blue elderberry [*Sambucus mexicana*]), are desert-type alliance (Joshua trees [*Yucca brevifolia*], big sagebrush [*Artemisia tridentata*], black bush [*Coleogyne ramosissima*], and bladderpod-California ephedra-narrowleaf goldenbush), are found in coastal dunes (dune-lupine-goldenbush alliance), or just do not easily fit into other categories. Weeds are an issue in some areas. Fire has been an ongoing concern with Joshua trees and black bush communities because their regeneration is limited following recent fires. Grazing is a problem in some areas and has resulted in the loss of shrubs and the conversion of shrub communities to nonnative-dominated grassland.

### *GRASSLAND*

Thirteen grassland alliances are present on public lands in the RMP decision area. Seven are characterized by the dominance of one or more native bunchgrass, two by the dominance of native rhizomatous grass, and the remaining four by the dominance of introduced grasses. Grasses also provide the understory for many tree alliances and occur as patches within many shrub communities. Grasslands are well represented in all three regions and occupy major parts of the landscape. Drier sites tend to support annual grasses, usually introduced, while more mesic sites support native perennial grasses. Grazing has been a major force in the alteration of native perennial grasslands, the spread of weedy

species, and the maintenance of introduced annual grassland communities. Fire and grazing have been explored as tools to manage California grasslands, with varying levels of success.

*RIPARIAN HERB*

Ten herb-dominated riparian alliances are present on public lands within the RMP decision area, and most occur in all three regions. Habitats for these alliances range from areas of saturated soils to running or standing water and include seeps, streams, rivers, and ponds. Wetland species, such as sedge, spikerush, bulrush (*Scirpus* spp.), and cattail (*Typhus* spp.), are common dominants. Two riparian alliance associated with ponds are dominated by small floating ferns (*Azolla* spp.) or duckweeds (*Lemna* spp.). Changes and threats to the herb-dominated riparian communities are similar to those of the woodland riparian alliance.

*MISCELLANEOUS HERB*

Three additional herbaceous alliances are present on public lands within the RMP decision area. Two occur on coastal sands; one is dominated by native sand verbena (*Abronia* spp.) and beach bursage (*Ambrosia chamissonis*), the other by introduced iceplant (*Carpobrotus* spp.), which has replaced the former community in many areas along the coast. The final herb alliance, dominated by perennial pickleweed (*Salicornia virginica*), occurs in alkali areas within the Valley Region and has similar habitat characteristics and species composition as the alkali shrub communities.

## *Special Status Plant Species*

The RMP decision area provides habitat for many special status species include federally listed species and candidates for listing, state listed species, and BLM sensitive species (which correspond to list 1B species in the California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California [2009b]). Sixty-five BLM special status species are found within the RMP decision area; and another 32 species are suspected to occur (Table B-4, Special Status Plant Species in the Bakersfield FO Planning Area). Inventories for all special status plants are incomplete for the RMP decision area, therefore, information on the distributions, habitat requirements, pollinators, and general biology of these species are based on the best available information and professional judgement regarding the potential for the presence or absence of a particular plant.

There are 41 federally listed plant species reported as being within the RMP Planning Area boundary (CNPS 2009b; Table B-1, Federally Listed Plants on Public Lands in the RMP Planning Area), including ten known to occur on public lands in the RMP Decision Area, nine suspected to occur, thirteen with the potential to occur, and ten that are unlikely to occur. One delisted plant also occurs on BLM lands. There are an additional two species that have been reported within the RMP Planning Area (CNPS 2009b; Consortium of California Herbaria 2009), but these records are incorrect. Of the listed species within the Bakersfield FO Planning Area boundary, critical habitat has been established for twenty (USFWS 2009a) and recovery plans have been published for twenty-seven (USFWS 2009b) of these species.

**Table B-1**
**Federally Listed Plants on Public Lands within the RMP Planning Area**

| ***Scientific Name*** **(Common Name)** | **Federal/State Status** | **Likelihood of Occurrence** |
|---|---|---|
| ***Arctostaphylos morroensis*** (Morro manzanita) | T/-- | C |
| ***Arenaria paludicola*** (marsh sandwort) | E/E | P |
| ***Astragalus brauntonii*** (Braunton's milk-vetch) | E/-- | U |

**Table B-1**
**Federally Listed Plants on Public Lands within the RMP Planning Area**

| ***Scientific Name*** **(Common Name)** | **Federal/State Status** | **Likelihood of Occurrence** |
|---|---|---|
| ***A. pycnostachyus*** **var.** ***lanosissimus*** (Ventura marsh milk-vetch) | E/E | U |
| ***Calyptridium pulchellum*** (Mariposa pussypaws) | T/-- | S |
| ***Castilleja campestris*** **var.** ***succulenta*** (succulent owl's-clover) | T/E | C |
| ***Caulanthus californicus*** (California jewelflower) | E/E | C |
| ***Chamaesyce hooveri*** (Hoover's spurge) | T/-- | P |
| ***Chlorogalum purpureum*** **var.** ***purpureum*** (purple amole) | T/-- | S |
| ***C. p.*** **var.** ***reductum*** (Camatta Canyon amole) | T/-- | P |
| ***Chorizanthe pungens*** **var.** ***pungens*** (Monterey spineflower) | T/-- | P |
| ***Cirsium fontinale*** **var.** ***obispoense*** (Chorro Creek bog thistle; San Luis Obispo fountain thistle) | E/E | C |
| ***C. loncholepis*** (La Graciosa thistle) | E/T | S |
| ***Clarkia speciosa*** **ssp.** ***immaculata*** (Pismo clarkia) | E/R | P |
| ***C. springvillensis*** (Springville clarkia) | T/E | C |
| ***Cordylanthus maritimus*** **ssp.** ***maritimus*** (salt marsh bird's-beak) | E/E | P |
| ***Deinandra increscens*** **ssp.** ***villosa*** (Gaviota tarplant) | E/E | S |
| ***Dudleya cymosa*** **ssp.** ***agourensis*** (Santa Monica Mountains dudleya, Agoura Hills dudleya) | T/-- | U |
| ***D. c.*** **ssp.** ***marcescens*** (marcescent dudleya) | T/R | U |
| ***D. parva*** (Conejo dudleya) | T/-- | U |
| ***D. verity*** (Verity's dudleya) | T/-- | U |
| ***Eremalche parryi*** **ssp.** ***kernensis*** (Kern mallow) | E/-- | C |
| ***Eriastrum hooveri*** (Hoover's woolystar) | DL/-- | C |
| ***Eriodictyon altissimum*** (Indian Knob mountainbalm) | E/E | C |
| ***E. capitatum*** (Lompoc yerba santa) | E/R | S |
| ***Eriogonum kennedyi*** **var.** ***austromontanum*** (southern mountain buckwheat) | T/-- | P |
| ***Lasthenia conjugens*** (Contra Costa goldfields) | E/-- | U |
| ***Layia carnosa*** (beach layia) | E/E | P |
| ***Lupinus nipomensis*** (Nipomo mesa lupine) | E/E | U |
| ***Monolopia congdonii*** (San Joaquin woollythreads) | E/-- | C |
| ***Nasturtium gambelii*** (Gambel's water cress) | E/E | P |
| ***Navarretia fossalis*** (Moran's navarretia) | T/-- | P |
| ***Opuntia basilaris*** **var.** ***treleasei*** (Bakersfield cactus) | E/E | P |
| ***Orcuttia inaequalis*** (San Joaquin Valley Orcutt grass) | T/E | C |

**Table B-1**
**Federally Listed Plants on Public Lands within the RMP Planning Area**

| ***Scientific Name*** **(Common Name)** | **Federal/State Status** | **Likelihood of Occurrence** |
|---|---|---|
| ***O. pilosa*** (hairy Orcutt grass) | E/E | P |
| ***Pentachaeta lyonii*** (Lyon's pentachaeta) | E/E | U |
| ***Pseudobahia bahiifolia*** (Hartweg's golden sunburst) | E/E | S |
| ***P. peirsonii*** (Tulare pseudobahia) | T/E | S |
| ***Sidalcea hickmanii*** **ssp.** ***parishii*** (Parish's checkerbloom) | C/R | S |
| ***S. keckii*** (Keck's checkerbloom) | E/-- | S |
| ***Suaeda californica*** (California seablite) | E/-- | U |
| ***Tuctoria greenei*** (Greene's tuctoria) | E/R | P |

Source: CNPS 2009b

Status:
E = endangered
T = threatened
C = candidate
R = rare
DL = delisted
-- = no status

Likelihood of occurrence
C = confirmed
P = potential
S = suspected
U = unlikely

The Bakersfield FO manages public lands that are within three designated critical habitats (six designated critical habitats when mineral estate is included) (Table B-2, Critical Habitat on Public Lands within the RMP Planning Area). The three species with critical habitat BLM-administered surface are vernal pool species. For the remaining 14 species, either the BLM has no lands within the designated critical habitat (six species) or the critical habitat is not within the RMP planning area boundaries.

**Table B-2**
**Critical Habitat on Public Lands within the RMP Planning Area**

| **Species (*Scientific Name*)** | **Fresno County** | **Tulare County** | **San Luis Obispo County** |
|---|---|---|---|
| Succulent owl's-clover *(Castilleja campestris* var. *succulent)* | S,ME | | |
| Hoover's spurge *(Chamaesyce hooveri)* | | ME | |
| Camatta Canyon amole *(Chlorogalum purpureum* var. *reductum)* | | | ME* |
| San Joaquin Valley Orcutt grass *(Orcuttia inaequalis)* | S, ME | ME | |
| Hairy Orcutt grass *(O. pilosa)* | S, ME | ME | |
| Keck's checkerbloom *(Sidalcea keckii)* | ME | | |

S = BLM surface ownership, ME = Mineral Estate only
*Includes ¼ of critical habitat. There are also two BLM surface parcels nearby: one at less than a tenth of a mile and one less than a mile away.

Several Habitat Conservation Plans (HCPs) are being prepared to address the conservation and recovery needs of listed species in the San Joaquin Valley (plants and animals). The Bakersfield Metro HCP was recently completed and addresses the concerns for Bakersfield cactus (*Opuntia basilaris* var. *treleasei*) in a portion of its range. The conservation of significant populations outside the metro area, however, has not as yet been addressed. The Kern County and Pleasant Valley HCPs are in progress.

Areas, including and adjacent to public lands, that are important for the long-term protection, enhancement, and recovery of the federally listed plants are Lokern Road (Kern County) for Kern mallow; Wheeler Ridge (Kern County) for Bakersfield cactus; Carrizo Plain (San Luis Obispo County) and Cuyama Valley (San Luis Obispo and Santa Barbara Counties) for San Joaquin woolly-threads and California jewelflower; and Kettleman Hills (Kings County) for San Joaquin woolly-threads.

## *B.4 Listed Species Accounts*

The following short accounts cover the one delisted and 41 listed plants that are found within the RMP Planning Area (Table B-1, Federally Listed Plants on Public Lands in the RMP Planning Area). Ten of the listed species are considered unlikely to occur within the RMP decision area, but they may possibly occur on some surface or mineral estate or on lands acquired in the future and, therefore, are included in the species accounts below. There are an additional two species that have been reported within the RMP Planning Area, but these records are incorrect. The Kern County citation of *Atriplex coronata* var. *notatior* (San Jacinto Valley crownscale) (Consortium of California Herbaria 2009) is based on a misidentified specimen (Wilkins 2009). The San Luis Obispo County citation of *Brodiaea filifolia* (thread-leaved brodiaea) (CNPS 2009b) is not verified by any specimen in California Natural Diversity Database, nor in the Consortium of California Herbaria (2009). As such, neither species is described below.

***Arctostaphylos morroensis*** (Morro manzanita)
Federal threatened, no state status

Morro manzanita is an evergreen shrub found in maritime chaparral at an elevation of 15 to 670 feet. The species is found in San Luis Obispo County, in the Irish Hills and Los Osos Valley within five miles of Morro Bay, with a total occupied habitat estimated to cover less than 350 acres. A small population occurs on public land in the Los Osos parcel. Morro manzanita is threatened by urbanization, the alteration of fire regimes (Odion and Tyler 2002), and habitat encroachment by the nonnative purple veldtgrass (*Ehrharta calycina*).

***Arenaria paludicola*** (marsh sandwort)
Federal endangered, state endangered

Marsh sandwort is a perennial stoloniferous herb found in marshes, swamps, and sandy openings at an elevation of 10 to 560 feet. The species has been previously collected in Los Angeles, San Bernardino, Santa Cruz, and San Francisco Counties. Extant populations are restricted to Mendocino County at Inglenook Fen and San Luis Obispo County, near Arroyo Grande south to Oso Flaco Lake and Guadalupe Dunes. The species is not currently known to occur on public lands but has a slight potential to occur on the Point Sal parcel. Marsh sandwort is threatened by development, erosion, and nonnative plants.

***Astragalus brauntonii*** (Braunton's milk-vetch)
Federal endangered, no state status

Braunton's milk-vetch is a perennial herb found in chaparral, coastal scrub, and valley and foothill grassland, in recent burns or disturbed areas, usually sandstone with carbonate layers at an elevation of 0 to 2,100 feet. The species is known from the Transverse and Peninsular Ranges of Ventura, Los Angeles, Orange, and Riverside Counties. Within the RMP planning area, it is known from the Medea Creek area near Thousand Oaks, Ventura County. It is unlikely to occur within the RMP decision area but may be possible on small surface or mineral estate. Braunton's milk-vetch is threatened by development, vegetation, and fuel management activities and alteration of local fire regimes (CNPS 2009b).

***A. pycnostachyus* var. *lanosissimus*** (Ventura marsh milk-vetch)
Federal endangered, state endangered

Ventura marsh milk-vetch is a perennial herb found in coastal dunes and coastal scrub and on the edges of coastal marshes and swamps at an elevation of 4 to 120 feet. The species was rediscovered near Oxnard in 1997; it is now known from only one natural occurrence of 30 to 50 reproductive plants. It is unlikely to occur within the RMP decision area but may be possible on small surface or mineral estate in the Ventura County coastal strand. Ventura marsh milk-vetch is threatened by development, herbivory, cucumber mosaic virus, and nonnative plants (CNPS 2009b).

***Calyptridium pulchellum*** (Mariposa pussypaws)
Federal threatened, no state status

Mariposa pussypaws is an annual herb found in sandy or gravely areas within chaparral or cismontane woodland, at an elevation of 1,300 to 4,000 feet. The species is known from fewer than ten occurrences in Fresno, Madera, and Mariposa Counties. It is not currently known to occur on public land but is suspected to occur within the San Joaquin River Gorge and potentially other public lands within Fresno and Madera Counties. Mariposa pussypaws is threatened by development, grazing, and vehicles.

***Castilleja campestris* var. *succulenta*** (succulent owl's-clover)
Federal threatened, state endangered

Succulent owl's-clover is an annual hemiparisitic herb found in vernal pools at an elevation of 165 to 2,500 feet. The species is found in Fresno, Madera, Merced, Mariposa, San Joaquin, and Stanislaus Counties and has been documented on the BLM Big Table Mountain parcel. Succulent owl's-clover is threatened by urbanization, agriculture, flood control, grazing, and trampling.

***Caulanthus californicus*** (California jewelflower)
Federal endangered, state endangered

California jewelflower is an annual herb found in grassland, chenopod scrub, and piñon-juniper woodland habitats at an elevation of 200 to 3,300 feet. The species is often associated with the burrow systems of giant kangaroo rats (*Dipodomys ingens*) (Mazer and Hendrickson 1993; Cypher 1994; USFWS 1998). The species was previously widespread but now is restricted to three areas: Santa Barbara Canyon near Cuyama Valley (Santa Barbara County), the Carrizo Plain (San Luis Obispo County), and the Kreyenhagen Hills (Fresno County). Occurrences on public lands include lands in the Cuyama Valley and Carrizo National Monument. The population in the Kreyenhagen Hills is managed by the Hollister BLM

Field Office. Previously documented populations in the San Joaquin Valley (Kings, Kern, and Tulare County) were lost due to overgrazing or conversion of habitat to agricultural use (USFWS 1998). California jewelflower is threatened by development, agriculture, and grazing.

***Chamaesyce hooveri*** (Hoover's spurge)
Federal threatened, no state status

Hoover's spurge is an annual herb found in vernal pools at an elevation of 80 to 800 feet. The species is known from Butte, Colusa, Glenn, Merced, Stanislaus, Tehama, and Tulare Counties. It has the potential to be found on public lands in Tulare County. Hoover's spurge is threatened by grazing, agriculture, and nonnative plants (CNPS 2009b).

***Chlorogalum purpureum* var. *purpureum*** (purple amole)
Federal threatened, no state status

Purple amole is a perennial herb found in gravelly or clay soils in chaparral, cismontane woodland, and valley and foothill grassland at an elevation of 650 to 1,150 feet. The species is known from Monterey and San Luis Obispo Counties and is suspected to be on public lands in the Santa Lucia Mountains (San Luis Obispo County). Purple amole is threatened by habitat fragmentation, habitat conversion, nonnative plants, foot traffic, vehicles, and military activities. It is potentially threatened by grazing (CNPS 2009b).

***C. p.* var. *reductum*** (Camatta Canyon amole)
Federal threatened, no state status

Camatta Canyon amole is a perennial herb found in cismontane woodland and valley and foothill grassland at an elevation of 1,000 to 2,000 feet. The species is known from only two occurrences in the La Panza Range (San Luis Obispo County) and has the potential to be on public lands in the La Panza Range. Camatta Canyon amole is threatened by grazing, habitat fragmentation, habitat conversion, nonnative plants, road maintenance, and vehicles (CNPS 2009b).

***Chorizanthe pungens* var. *pungens*** (Monterey spineflower)
Federal threatened, no state status

Monterey spineflower is an annual herb found in sandy soils in maritime chaparral, cismontane woodland, coastal dunes and scrub, and valley and foothill grassland at an elevation of 10 to 1,500 feet. Monterey spineflower is currently known from Monterey and Santa Cruz Counties, although there was one collection in 1842 from San Luis Obispo County (Consortium of California Herbaria 2009). There is a low probability that the species could be found on public lands in San Luis Obispo County near the border with Monterey County. Monterey spineflower is threatened by urbanization, recreational development and activities, agriculture, military activities, and nonnative plants (CNPS 2009b).

***Cirsium fontinale* var. *obispoense*** (Chorro Creek bog thistle; San Luis Obispo fountain thistle)
Federal endangered, state endangered

Chorro Creek bog thistle is a perennial herb found in serpentinite seeps and drainages within chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland at an elevation of 100 to 1,250 feet. Chorro Creek bog thistle is known from fewer than 20 occurrences in San Luis Obispo County and is

known to occur on public lands there. The species is threatened by grazing, development, and proposed water diversions (CNPS 2009b).

***C. loncholepis*** (La Graciosa thistle)
Federal endangered, state threatened

La Graciosa thistle is a perennial herb found in mesic sandy sites in cismontane woodland, coastal dunes, and scrub, marshes and swamps, and valley and foothill grassland habitats at an elevation of15 to 700 feet. La Graciosa thistle is known from fewer than twenty occurrences in the area between Arroyo Grande and Lompoc (San Luis Obispo and Santa Barbara Counties). The species is reported by CNPS (2009) to also be in Monterey and Ventura Counties, but no specimens are on record (Consortium of California Herbaria 2009). La Graciosa thistle is suspected to be present on public lands in San Luis Obispo County. It is threatened by development, vehicles, groundwater pumping, and nonnative plants and is possibly threatened by grazing (CNPS 2009b).

***Clarkia speciosa* ssp. *immaculata*** (Pismo clarkia)
Federal endangered, state rare

Pismo clarkia is an annual herb found in sandy openings in chaparral cismontane woodland and valley and foothill grassland, at an elevation of 80 to 600 feet. The species is known from less than 20 occurrences between Morro Bay and Arroyo Grande in San Luis Obispo County, and it has the potential to be found on public lands. Pismo clarkia is threatened by development, road maintenance, and grazing (CNPS 2009b).

***C. springvillensis*** (Springville clarkia)
Federal threatened, state endangered

Springville clarkia is an annual herb found in granitic soils in chaparral, cismontane woodland, and valley and foothill grassland, at an elevation of 800 to 4,000 feet. The species is known from fewer than twenty occurrences in the Tule and Kaweah River drainages in Tulare County and is found on public lands. Springville clarkia is threatened by nonnative plants, overgrazing, vehicles, road maintenance, logging, and residential development (CNPS 2009b).

***Cordylanthus maritimus* ssp. *maritimus*** (salt marsh bird's-beak)
Federal endangered, state endangered

Salt marsh bird's-beak is an annual hemiparasitic herb found in coastal dunes, marshes and swamps at an elevation of 0 to 100 feet. The species is known from coastal California, from San Luis Obispo to San Diego County. It is also reported from San Bernardino and Santa Clara County (Consortium of California Herbaria 2009), but these last are based on specimens collected over 100 years ago, and their correct identification is questionable. Salt marsh bird's-beak has a low potential to occur on public lands in San Luis Obispo County. It is threatened by vehicles, road construction, foot traffic, nonnative plants, and loss of salt marsh habitat (CNPS 2009b).

***Deinandra increscens* ssp. *villosa*** (Gaviota tarplant)
Federal endangered, state endangered

Gaviota tarplant is an annual herb found in coastal scrub, coastal bluff scrub, and valley and foothill grassland habitats at an elevation of 100 to 1,400 feet. The species is known from western coastal Santa

Barbara County and is suspected to be present on the BLM Point Sal parcel. Gaviota tarplant is seriously threatened by energy development and nonnative plants (CNPS 2009b).

***Dudleya cymosa* ssp. *agourensis*** (Santa Monica Mountains dudleya, Agoura Hills dudleya)
Federal threatened, no state listing

Santa Monica Mountains dudleya is a perennial succulent found in rocky volcanic areas within chaparral and cismontane woodland at an elevation of 650 to 1,600 feet. The species is known from the western Santa Monica Mountains in Ventura and Los Angeles Counties. It is unlikely to occur within the RMP decision area but may be possible on small surface or mineral estate in Ventura County. There are no listed threats for this species, but development is probably an issue (CNPS 2009b). The species is considered to be a synonym of *Dudleya cymosa* ssp. *ovatifolia* in *The Jepson Manual* (Hickman 1993).

***D. c.* ssp. *marcescens*** (marcescent dudleya)
Federal threatened, state rare

Marcescent dudleya is a perennial succulent found in rocky volcanic areas within chaparral at an elevation of 500 to 1,700 feet. The species is known from fewer than ten occurrences in the Santa Monica Mountains of Ventura and Los Angeles Counties. It is unlikely to occur within the RMP decision area but may be possible on small surface or mineral estate in Ventura County. Marcescent dudleya is threatened by development and foot traffic (CNPS 2009b).

***D. parva*** (Conejo dudleya)
Federal threatened, no state listing

Conejo dudleya is a perennial succulent found in rocky or gravely clay or volcanic sites within coastal scrub and valley and foothill grassland at an elevation of 200 to 1,450 feet. The species is known from about ten occurrences from the western end of Simi Hills to Conejo Grade in Ventura County. It is unlikely to occur within the RMP decision area but may be possible on small surface or mineral estate. Conejo dudleya is threatened by horticultural collecting, recreation, vehicles, and urbanization. The species is federally listed as *Dudleya abramsii* ssp. *parva* (CNPS 2009b).

***D. verityi*** (Verity's dudleya)
Federal threatened, no state listing

Verity's dudleya is a perennial succulent found in volcanic rocky sites within chaparral, cismontane woodland, and coastal scrub at an elevation of 200 to 400 feet. The species is known from only three occurrences near Conejo Mountain in Ventura County. It is unlikely to occur within the RMP decision area but may be possible on small surface or mineral estate. Verity's dudleya is threatened by mining, flood control activities, and development (CNPS 2009b).

***Eremalche parryi* ssp. *kernensis*** (Kern mallow)
Federal endangered, no state status

Kern mallow is a small annual herb found in chenopod scrub and valley and foothill grassland habitat at an elevation of 230 to 3,300 feet. The exact definition of the species has been a matter of some disagreement. Reports, papers, and taxonomic treatments have varied in the exact description of the species, which populations should be included, and what the actual distribution is. The upcoming treatment for the Jepson Manual (Andreasen, in press), based on morphological and genetic analyses,

indicates that Kern mallow occurs in both Kern and San Luis Obispo Counties (Andreasen 2005). There are a number of specimens from the Carrizo Plain that fall within this circumscription of the species. An earlier evaluation concluded that the Carrizo Plain population should warrant recognition as a separate rare subspecies, worthy of protection (Leonelli 1986). One specimen collected on the Elkhorn Plain is identified as Kern mallow (Consortium of California Herbaria 2009). Other specimens from the Carrizo Plain do not indicate subspecies and may or may not be Kern mallow. The species is considered to be seriously threatened by agriculture, grazing, and oil development (CNPS 2009b).

***Eriastrum hooveri*** (Hoover's woolystar)
Federal delisted, no state status

Hoover's woolystar is an annual herb found in chenopod scrub, piñon and juniper woodland, and valley and foothill grassland at an elevation of 160 to 2,300 feet. The species is known in the San Joaquin Valley from Merced south (Fresno, Kings, Kern, and San Benito Counties), the Carrizo Plain and Cuyama Valley (San Luis Obispo and Santa Barbara County), and an area north of Lancaster (Los Angeles County). Hoover's woolystar is found on public lands in the Valley Region and is threatened by agriculture, urbanization, energy development, and vehicles (CNPS 2009b). Following the delisting of Hoover's woolystar (USFWS 2003), and in accordance with recovery plan objectives (USFWS 1998), the BLM designated the species as sensitive, and, as such, it continues to be protected. Projects in *Eriastrum hooveri* habitat must comply with specific mitigation measures designed to protect the species.

***Eriodictyon altissimum*** (Indian Knob mountainbalm)
Federal endangered, state endangered

Indian Knob mountainbalm is an evergreen shrub found in sandstone in chaparral cismontane woodland and coastal scrub habitats at an elevation of 260 to 900 feet. The species is known from six occurrences in the Irish Hills and Indian Knob, San Luis Obispo County, and is known on the BLM Irish Hills parcel. Indian Knob mountainbalm is threatened by urbanization, energy development, and vehicles, and possibly by alteration of fire regimes and nonnative plants (CNPS 2009b).

***E. capitatum*** (Lompoc yerba santa)
Federal endangered, state rare

Lompoc yerba santa is an evergreen shrub found in maritime chaparral and closed-cone coniferous forest at an elevation of 130 to 3,000 feet. The species is known from western Santa Barbara County and is suspected to be on some public lands in the area. No threats to the species have been identified by CNPS (2009b), but development is a likely issue.

***Eriogonum kennedyi*** **var. *austromontanum*** (southern mountain buckwheat)
Federal threatened, no state status

Southern mountain buckwheat is a perennial herb found in gravelly areas in lower montane coniferous forest, at an elevation of 6,000 to 9,500 feet. The species is known from Ventura and San Bernardino Counties and has the potential to be on public lands or BLM mineral estate in the Transverse Range. Southern mountain buckwheat is threatened by vehicles, development, grazing, nonnative plants, recreational activities, and road maintenance (CNPS 2009b).

***Lasthenia conjugens*** (Contra Costa goldfields)
Federal endangered, no state listing

Contra Costa goldfields is an annual herb found in playas and vernal pools within cismontane woodland and foothill and valley grassland at an elevation of 0 to 1,500 feet. The species is known primarily from the counties surrounding San Francisco and in the vicinity of Monterey, but extirpated populations are also known from Mendocino County and near Goleta and Carpinteria in Santa Barbara County. It is unlikely to occur within the RMP decision area but may be possible on small surface or mineral estate in the Coastal Region. Contra Costa goldfields is currently threatened by development, habitat alteration, hydrological alterations, overgrazing, and nonnative plants. Many historical occurrences were extirpated by development and agriculture (CNPS 2009b).

***Layia carnosa*** (beach layia)
Federal endangered, state endangered

Beach layia is an annual herb found in coastal dunes and scrub at an elevation of 0 to 200 feet. The species is known from scattered locations along the coast of Humboldt, Marin, San Francisco, Monterey, and Santa Barbara Counties. It has the potential to be found on the BLM Point Sal parcel and is threatened by coastal development, foot traffic, vehicles, and nonnative plants (CNPS 2009b).

***Lupinus nipomensis*** (Nipomo mesa lupine)
Federal endangered, state endangered

Nipomo mesa lupine is an annual herb found in coastal dunes at an elevation of 30 to 160 feet. The species is known from less than ten occurrences from the Guadalupe Dunes/Nipomo Mesa area in San Luis Obispo County. It is unlikely to occur within the RMP decision area but may be possible on small surface or mineral estate in the coastal plain of San Luis Obispo County. Nipomo mesa lupine is threatened by development, vehicles, and nonnative plants (CNPS 2009b).

***Monolopia congdonii*** (San Joaquin woollythreads)
Federal endangered, no state status

San Joaquin woollythreads is an annual herb found in chenopod scrub and valley and foothill grassland at an elevation of 200 to 2,600 feet. The species is previously known from Fresno, Kings, Kern, Santa Barbara, San Benito, San Luis Obispo, and Tulare Counties. Its historic range was throughout the southern San Joaquin Valley, the Carrizo Plain, and the upper Cuyama Valley (Taylor 1989). The current distribution of San Joaquin woollythreads is four metapopulations and several small isolated populations, the largest being in the Carrizo Plain (USFWS 1998). The species is present on public lands in the Valley Region and is threatened by agricultural conversion, energy development, urbanization, grazing, trampling, and vehicles (CNPS 2009b).

***Nasturtium gambelii*** (Gambel's water cress)
Federal endangered, state endangered

Gambel's water cress is a rhizomatous herb found in marshes and swamps at an elevation of 15 to 1,100 feet. The species is nearly extinct in the US; it is known in California from only four occurrences. The Black Lake Canyon and Little Oso Flaco Lake (San Luis Obispo County) populations were not seen in 1998 and are possibly extirpated. There is the very slight potential for this species to occur in seeps within the

BLM Point Sal parcel. Gambel's water cress is seriously threatened by habitat loss, erosion, and eucalyptus that may be altering hydrology at Black Lake Canyon (CNPS 2009b).

***Navarretia fossalis*** (Moran's navarretia)
Federal threatened, no state status

Moran's navarretia is an annual herb found in shallow playas and vernal pools within chenopod scrub at an elevation of 100 to 4,300 feet. The species is known from San Luis Obispo to Baja California, and has the potential to be found on public lands or BLM mineral estate in San Luis Obispo County. Moran's navarretia is threatened by urbanization, agriculture, road construction, grazing, flood control, nonnative plants, illegal dumping, foot traffic, and vehicles. The species is potentially threatened by hydrological alterations (CNPS 2009b).

***Opuntia basilaris* var. *treleasei*** (Bakersfield cactus)
Federal endangered, state endangered

Bakersfield cactus is a perennial succulent found in sandy or gravelly soils in chenopod scrub, cismontane woodland, and valley and foothill grassland at an elevation of 400 to 1,800 feet. The species is known from Kern County and is potentially present on public lands in Kern County. Bakersfield cactus is threatened by energy development, agricultural conversion, grazing, vehicles, and especially urbanization in the Bakersfield area (CNPS 2009b).

***Orcuttia inaequalis*** (San Joaquin Valley Orcutt grass)
Federal threatened, state endangered

San Joaquin Valley Orcutt grass is an annual grass found in vernal pools at an elevation of 30 to 2,500 feet. The species is known from Fresno, Madera, Merced, Solano, Stanislaus, and Tulare Counties (CNPS 2009b). San Joaquin Orcutt grass has been documented from the BLM Table Mountain parcel in Madera County and is seriously threatened by agriculture, development, overgrazing, channelization, and nonnative plants (CNPS 2009b).

***O. pilosa*** (hairy Orcutt grass)
Federal endangered, state endangered

Hairy Orcutt grass is an annual herb found in vernal pools at an elevation of 160 to 660 feet. The species is known from Tehama to Fresno Counties and has the potential to be found on public lands or BLM mineral estate in Madera and Fresno Counties. Hairy Orcutt grass is seriously threatened by agriculture, urbanization, overgrazing, nonnative plants, and trampling (CNPS 2009b).

***Pentachaeta lyonii*** (Lyon's pentachaeta)
Federal endangered, state endangered

Lyon's pentachaeta is an annual herb found in rocky or clay openings in chaparral, coastal scrub, and valley and foothill grassland at an elevation of 100 to 2,000 feet. The species is known from the Santa Monica and Santa Susana Mountains in Los Angeles and Ventura Counties. It is unlikely to occur within the RMP decision area but may be possible on small surface or mineral estate in Ventura County. Lyon's pentachaeta is threatened by development, alteration of fire regimes, trampling, vehicles, nonnative plants, and recreational activities (CNPS 2009b).

***Pseudobahia bahiifolia*** (Hartweg's golden sunburst)
Federal endangered, state endangered

Hartweg's golden sunburst is an annual herb found in clay soils that are often acidic, in cismontane woodland and valley and foothill grassland at an elevation of 50 to 500 feet. Hartweg's golden sunburst is known from the foothills of the Sierra Nevada from Yuba to Kern Counties. It is suspected to be present on some public lands and is seriously threatened by development, agriculture, overgrazing, and trampling (CNPS 2009b).

***P. peirsonii*** (Tulare pseudobahia)
Federal threatened, state endangered

Tulare pseudobahia is an annual herb found in adobe clay in cismontane woodland and valley and foothill grassland at an elevation of 300 to 2,600 feet. The species is known from the foothills of the Sierra Nevada in Fresno, Kern, and Tulare Counties. It is suspected to be present on some public lands and is seriously threatened by agriculture, grazing, development, nonnative plants, road construction and maintenance, and flood control activities (CNPS 2009b).

***Sidalcea hickmanii* ssp. *parishii*** (Parish's checkerbloom)
Federal candidate, state rare

Parish's checkerbloom is a perennial herb found in chaparral, cismontane woodland, and lower montane coniferous forest at an elevation of 3,300 to 8,200 feet. The species is known from Santa Barbara, San Bernardino, and San Luis Obispo Counties. It is suspected to be present on some public lands in the Coast Range in Santa Barbara and San Luis Obispo Counties. Parish's checkerbloom is threatened by urbanization, recreational activities, vegetation/fuels management, alteration of fire regimes, grazing, trampling, and road maintenance (CNPS 2009b).

***S. keckii*** (Keck's checkerbloom)
Federal endangered, no state status

Keck's checkerbloom is an annual herb found in clay and serpentinite soils in cismontane woodland and valley and foothill grassland at an elevation of 400 to 1,400 feet. Although the CNPS (2009b) indicates that the species is known only from three occurrences in Fresno, Tulare, and Merced Counties, specimens identified as *Sidalcea keckii* from Solano, El Dorado, and Napa Counties are in California herbaria (Consortium of California Herbaria 2009). Keck's checkerbloom is suspected to be present on some public lands in the Sierra Region. No information is available on potential threats to the species (CNPS 2009b).

***Suaeda californica*** (California seablite)
Federal endangered, no state listing

California seablite is a small evergreen shrub found in coastal marshes and swamps at an elevation of 0 to 50 feet. The species was formerly known from the San Francisco Bay Area, where it was extirpated by development; now it is extant only in Morro Bay and near Cayucos Point in San Luis Obispo County. It is unlikely to occur within the RMP decision area but may be possible on small surface or mineral estate in San Luis Obispo County. California seablite is threatened by recreation, erosion, and alteration of marsh habitat (CNPS 2009b).

***Tuctoria greenei*** (Greene's tuctoria)
Federal endangered, state rare

Greene's tuctoria is an annual grass found in vernal pools at an elevation of 100 to 3,500 feet. The species is known from Shasta to Tulare Counties and has the potential for occurrence at some vernal pool sites managed by the BLM. Greene's tuctoria is threatened by agriculture, urbanization, and overgrazing (CNPS 2009b).

### *Other Notable Rare Species*

***Mimulus shevockii*** (Kelso Creek monkeyflower)

Kelso Creek monkeyflower is an annual herb found in sparsely vegetated openings within Joshua tree and piñon and juniper woodlands at an elevation of 2,600 to 4,400 feet. The species is known from only ten occurrences in the southern Sierra Nevada (Kern County) within Cyrus Canyon, in the Kelso Creek watershed, and nearby on the Mojave Desert side of the mountains. A recent status report for the Kelso Creek monkeyflower recommends listing the species, based on its rarity and current threats (Thomas 2008). The BLM has managed an area in Cyrus Canyon for the protection of populations of this rare species. A recent donation of land by the Kern Audubon Society has expanded the protected habitat in the canyon. Kelso Creek monkeyflower is also known from BLM lands in the Kelso Creek area. Threats include grazing and OHV activity. One Cyrus Canyon population was destroyed when an adjacent homeowner constructed horse corrals on public land.

## *B.5 Weeds Species within the Planning Area*

There are over 200 problematic invasive plants within the Planning Area (Table B-3) as identified by the California Department of Food and Agriculture and the California Invasive Plants Council (Cal-IPC 2009).

**Table B-3**
**Weed Species[1] within the RMP Planning Area**

| | | |
|---|---|---|
| *Acacia dealbata* | *Cynodon dactylon* | ***Oxalis pes-caprae*** |
| *A. melanoxylon* | *Cynosurus echinatus* | *Panicum capillare* |
| *A. paradoxa* | *Cyperus esculentus* | *Peganum harmala* |
| *Achnatherum brachychaetum* | *C. rotundus* | *Pennisetum clandestinum* |
| ***Acroptilon repens***[2] | ***Cytisus scoparius*** | *P. setaceum* |
| *Aegilops cylindrica* | *Dactylis glomerata* | *P. villosum* |
| *A. triuncialis* | *Delairea odorata* | *Phalaris aquatica* |
| *Ageratina adenophora* | *Descurainia sophia* | *Phragmites australis* |
| *Agrostis avenacea* | *Digitalis purpurea* | *Physalis acutifolia* |
| *A. stolonifera* | *Dipsacus fullonum* | *Physalis philadelphica* |
| ***Ailanthus altissima*** | *D. sativus* | *Phytolacca americana* |
| *Alhagi maurorum* | *Dittrichia graveolens* | *Picris echioides* |
| *A. pseudalhagi* | *Echium candicans* | *Piptatherum miliaceum* |
| *Alternanthera philoxeroides* | *Egeria densa* | *Plantago lanceolata* |
| *Ambrosia acanthicarpa* | ***Ehrharta calycina*** | *Poa pratensis* |
| *Ammophila arenaria* | *E. erecta* | *Polygonum amphibium* var. |
| *Anthoxanthum odoratum* | *Eichhornia crassipes* | *emersum* |
| *Aptenia cordifolia* | *Elodea canadensis* | *P. cuspidatum* |

**Table B-3**
**Weed Species[1] within the RMP Planning Area**

| | | |
|---|---|---|
| *Araujia sericifera* | *Elytrigia repens* | *P. lapathifolium* |
| ***Arundo donax*** | *Emex spinosa* | *P. persicaria* |
| *Asparagus asparagoides* | *Erodium cicutarium* | *Potamogeton crispus* |
| *Asphodelus fistulosus* | *Eucalyptus camaldulensis* | *Prosopis velutina* |
| *Atriplex semibaccata* | *E. globulus* | *Ranunculus repens* |
| *Avena barbata* | *Euphorbia oblongata* | *Raphanus sativus* |
| *A. fatua* | *Ficus carica* | *Ricinus communis* |
| ***Bassia hyssopifolia*** | *Foeniculum vulgare* | *Robinia pseudoacacia* |
| *Bellardia trixago* | *Gaura coccinea* | *Rorippa palustris* |
| *Brachypodium distachyon* | *G. drummondii* | *Rubus discolor* |
| *Brassica nigra* | *G. sinuata* | *Rumex acetosella* |
| *B. rapa* | ***Genista monspessulana*** | *R. crispus* |
| ***B. tournefortii*** | *Geranium dissectum* | *Saccharum ravennae* |
| *Briza maxima* | *Glyceria declinata* | *Salsola paulsenii* |
| *Bromus diandrus* | *Gypsophila paniculata* | *S. soda* |
| *B. hordeaceus* | *Hedera helix* | ***S. tragus*** |
| *B. japonicus* | *Helianthus annuus* | ***S. vermiculata*** |
| *B. madritensis* | *H. ciliaris* | *Salvinia molesta* |
| *B. madritensis subsp. rubens* | *Hirschfeldia incana* | *Saponaria officinalis* |
| *B. tectorum* | *Holcus lanatus* | *Schinus molle* |
| *Cakile maritima* | *Hydrilla verticillata* | *Senecio jacobaea* |
| *Cardaria chalepensis* | *Hypericum canariense* | *S. vulgaris* |
| *C.a draba* | *H. perforatum* | *Sesbania punicea* |
| *C. pubescens* | *Hypochaeris glabra* | *Setaria pumila* |
| ***Carduus pycnocephalus*** | *H. radicata* | *S. viridis* |
| *C. tenuiflorus* | *Iris douglasiana* | *Silybum marianum* |
| ***Carpobrotus chilensis*** | *I. missouriensis* | *Sinapis arvensis* |
| ***C. edulis*** | *I. pseudacorus* | *Sisymbrium irio* |
| *Carthamus baeticus* | *Iva axillaris* | *Solanum carolinense* |
| *C. lanatus* | *Kochia scoparia* | *S. dimidiatum* |
| *Cenchrus echinatus* | ***Lepidium latifolium*** | *S. elaeagnifolium* |
| *C. incertus* | *Linaria genistifolia* ssp. | *S. lanceolatum* |
| *C. longispinus* | *dalmatica* | *S. nigrum* |
| *Centaurea calcitrapa* | *L. vulgaris* | *S. sarrachoides* |
| *C. iberica* | *Lolium multiflorum* | *Sonchus arvensis* |
| *C. maculosa* | *Ludwigia hexapetala* | *Sorghum bicolor* |
| *C. melitensis* | *Lupinus arboreus* | *S. halepense* |
| ***C. solstitialis*** | ***Lythrum salicaria*** | ***Spartium junceum*** |
| *C. squarrosa* | *Malvella leprosa* | *Sphaerophysa salsula* |
| *Chondrilla juncea* | *Marrubium vulgare* | *Taeniatherum caput-medusae* |
| *Chorispora tenella* | *Medicago polymorpha* | *Tagetes minuta* |
| *Chrysanthemum coronarium* | *Mentha pulegium* | *Tamarix aphylla* |
| *Cirsium arvense* | *Mesembryanthemum* | *T. chinensis* |
| *C. ochrocentrum* | *crystallinum* | *T. gallica* |
| ***C. vulgare*** | *Myoporum laetum* | *T. parviflora* |
| ***Conicosia pugioniformis*** | *Myosotis latifolia* | ***T. ramosissima*** |

**Table B-3**
**Weed Species[1] within the RMP Planning Area**

| | | |
|---|---|---|
| *Conium maculatum* | *Myriophyllum aquaticum* | *Tanacetum vulgare* |
| *Convolvulus arvensis* | *M. spicatum* | *Torilis arvensis* |
| *Cortaderia jubata* | *Nicotiana glauca* | ***Tribulus terrestris*** |
| *C. selloana* | *Nothoscordum inodorum* | *Trifolium hirtum* |
| *Cotoneaster pannosus* | *Nymphaea mexicana* | *Verbascum thapsus* |
| *Cotula coronopifolia* | *Olea europaea* | *Vinca major* |
| *Crataegus monogyna* | *Ononis alopecuroides* | *Vulpia myuros* |
| *Cucumis myriocarpus* | *Onopordum acanthium* | *Washingtonia robusta* |
| *Cupressus macrocarpa* | *O. tauricum* | *Zygophyllum fabago* |
| *Cynara cardunculus* | *Orobanche ramose* | |

[1]Weeds are those included on the Cal-IPC Web pages.
[2]The 22 species in bold are the focus of current weed control/eradication efforts. Source of the list: Consortium of California Herbaria (2009).

## *B.6 Regional Vegetation Descriptions*

### *Coast Region*

The Coast Region contains the largest number of plant communities of the three regions. Eighty-eight vegetation alliances are found within or have the potential to be on public lands in the area. Most of the public lands in the Coast Region have not had their vegetation mapped, so exact delineations of vegetation types are not available. Twenty-seven different alliances of woodlands are present, dominated by oaks, other hardwoods, pines, other conifers, or riparian species, primarily willows. Although there are 10 different alliances of oak woodlands within the Coastal Region, most prevalent are those types dominated by blue or coast live oak. Foothill (gray) pine is a common element in some of the blue oak woodlands.

Several of the plant communities have become sufficiently rare to cause local concern. Sensitive plant communities within this region include northern interior cypress forest (Sargent cypress alliance), serpentine chaparral (various chaparral alliance), southern dune scrub (coastal scrub alliance), southern Bishop pine forest (Bishop pine alliance), oak woodlands, and riparian communities.

Twenty-six federally listed plant species occur within the Coast Region (Table B-1), Federally Listed Plants on Public Lands in the RMP Decision Area), but nine of these are unlikely to occur on public lands. Of the remaining 17 species, six are threatened and 11 are endangered. Three of the listed species are known to occur on public lands within the Coast Region, four are suspected to occur, and the remaining 10 have the potential to occur. In addition, there are 123 BLM sensitive plant species within the Coast Region. Of these, 23 are known to be present on public lands, nine are suspected to occur, and 91 have the potential to be present. While little survey data is available for the presence of sensitive plants on public lands in this region, the best available information and professional judgement was used regarding the potential for the presence or absence of a particular plant. Many potentially impacting uses and activities may occur in varying degrees on these lands. Generally the accessible lands and those lacking dense vegetative cover are subject to surface-disturbing activities and resultant impacts on sensitive plant species and their habitats. Many of the inner coast range areas can be extensively grazed in livestock allotments. Parcels nearer the coastal zone tend to be in steep and densely vegetated areas.

Oil and gas development occurs on a limited scale in both the Sespe and Point Conception areas. It is unknown if any sensitive plant species are within the active oil producing leaseholds. Many of the coastal parcels have outstanding botanical resources. Examples include Los Osos with its pygmy oak forest and rare plants, Point Sal and Piedras Blancas with coastal dune communities and several sensitive plant species, Salinas River with its riparian community, Tierra Redonda Mountain with unique sand dunes and sensitive plants, Frog Pond Mountain with its rare bay forest, Cypress Mountain with its Sargent cypress forest and several associated sensitive plant species, Irish Hills with its Bishop pine forest and record trees, and Rusty Peak with its sensitive plant communities and species. These areas have been designated as ACECs, SMAs, or, for the newly acquired parcels, as proposed ACECs or Outstanding Natural Areas (Piedras Blancas).

### *Valley Region*

The Valley Region contains the fewest plant communities of the three regions. Thirty-nine vegetation alliances are found within or have the potential to be on public lands in the region. Most of the BLM lands in the Valley Region have not had their vegetation mapped, so exact delineations of vegetation types are not available. Vegetation primarily consists of grasslands and alkali scrub. There are some blue and Alvord oak woodlands in the ranges on the western side of the region. The Freeborn Mountain area has extensive stands of chaparral, and the Cuyama area includes some juniper woodlands. Some of the alkali scrub communities are now quite rare due to conversion of extensive tracts of San Joaquin Valley land to agriculture.

Thirteen federally listed plant species occur within the Valley Region (Table B-1), Federally Listed Plants on Public Lands in the RMP Decision Area), but three of these are unlikely to occur on public lands. Of the remaining 10 species, three are threatened and seven are endangered. There is also one delisted species, Hoover's woolystar (*Eriastrum hooveri*). Five of the listed species are known to occur in the Valley Region, three are suspected to occur, and the remaining three have the potential to occur. In addition, there are 38 BLM sensitive plant species within the Valley Region. Of these, 22 are known to be present on public lands, seven are suspected to occur, and nine have the potential to be present. Most of these species are associated with either vernal pool ecosystems or alkali scrub communities.

The southern San Joaquin Valley was once covered with alkali scrub communities, estimated at over three million acres in the broad plains of the valley floor and foothills, and dominated by two perennial species of saltbush (*Atriplex polycarpa* and *A. spinifera*). The rapid development of irrigated agriculture, urbanization, and oil and gas production in the last century has significantly decreased the extent of this vegetation. Less than 10 percent of the original vegetation is now left, most in degraded to fair condition. Large areas of saltbush scrub have been lost or severely degraded by fire. Significant remnant examples of the saltbush scrub community are present in the Lokern area, Semitropic Ridge, Lost Hills, and Buena Vista Valley. Valley Sink Scrub is another natural vegetation type found in the valley. It is restricted to valley bottoms near lake beds, as exemplified by Kern, Tulare, and Goose Lakes. It is best developed in highly alkaline soils that have no external drainage. The vegetation of Valley Sink Scrub is made up of plants that can tolerate high levels of salinity and alkalinity, such as iodine bush (*Allenrolfea occidentalis*) and seepweed (*Suaeda fruticosa*). Water developments and land reclamation for agriculture have virtually eliminated this community from the San Joaquin Valley. It is now considered to be one of the rarest communities by the California Natural Diversity Data Base. The Goose Lake ACEC was established in part to conserve this rare plant community. Past proposals to expand this ACEC have not been successful, and the public land holdings remain at 40 acres.

### *Sierra Region*

The Sierra Region is botanically diverse and relatively unexplored. Sixty-five vegetation alliances are found within or have the potential to be on public lands in the region. Twenty-five different alliances of woodlands are present, primarily dominated by oaks or conifers, but also including willow alliance in riparian areas. Notable vegetation alliances include Piute cypress forest, giant Sequoia forest, Joshua tree woodland, and alkali meadows. There are also extensive oak woodlands. Much of the Sierra Region has not been surveyed for sensitive plant species due to inaccessibility, rough terrain, and lack of resources. The more accessible lands are occasionally subject to surface-disturbing activities, such as grazing and OHV usage, which could impact sensitive plants. A much larger percentage of this region receives little or no impact from BLM-authorized activities because of its wilderness status or isolated nature.

Ten federally listed plant species occur within the Sierra Region (Table B-1), Federally Listed Plants on Public Lands in the RMP Decision Area). Of the 10 species, five are threatened and five are endangered. Four of the listed species are known to occur within the Sierra Region, five are suspected to occur, and one has some potential to occur. In addition, there are 65 BLM sensitive plant species within the Sierra Region. Of these, 27 are known to be present on public lands, 14 are suspected to occur, and 23 have the potential to be present. One alpine species is unlikely to be present on public lands.

Bakersfield cactus, a federally endangered species, occurs in the western portion of this region around Caliente Creek (Kern County). Kelso Creek monkeyflower, a species that many feel should be listed, is the focus of a proposed ACEC in Cyprus Canyon (Kern County); a recent donation of land from the Audubon Society has increased BLM holdings of monkeyflower habitat. No less than 18 new species have been described from the remote and relatively unexplored portions of the southern Sierra Nevada range, an area purported to include upwards of 60 percent of the California flora. Notable rare species, such as Spanish Needle onion (*Allium shevockii*), Nine-Mile Canyon phacelia (*Phacelia novenmillensis*), Needle's buckwheat (*Eriogonum breedlovei* var. *shevockii*), Charlotte's phacelia (*P. nashiana*), and Walker Pass milkvetch (*Astragalus ertterae*), can be found from Walker Pass to the Spanish Needle, along and near the Pacific Crest Trail.

The region also includes a number of sensitive or unique plant communities or habitats that support sensitive plant species. Marble outcrops that support limestone endemic species occur along Erskine Creek (Kern County) and at Comb Rocks near Milk Ranch Peak (Tulare County). Alkali meadow communities around Isabella Lake (Kern County), South Lake (Kern County), and hot springs areas support the alkali mariposa lily (*Calochortus striatus*). Piute Cypress groves, rare communities in and of themselves, additionally support other rare plants, such as the Piute Mountains jewelflower (*Streptanthus cordatus* var. *piutensis*) and Kern County larkspur (*Delphinium purpusii*).

## *B.7 Commercial Forest and Woodlands*

The only public lands within the RMP Decision Area containing woodlands of potential commercial quality are within the Sierra Region in the Case Mountain/Milk Ranch Peak area (Tulare County). This is in the Case Mountain Wilderness Study Area; therefore, production of forest products is prohibited. Commercial forest lands are not found in the Chimney Peak/Walker Pass area.

Approximately 2,500 acres of federal lands on Case Mountain and Milk Ranch Peak have been logged; additionally nearby private lands were also logged. The goal of logging was to harvest old growth mixed conifer stands, including giant sequoias on private inholdings on Case Mountain, incense cedar, sugar

pine (*P. lambertiana*), ponderosa pine, white fir, and Jeffrey pine. Ground-based harvesting systems were used, and all logs were trucked to mills in Dinuba or Terra Bella, California. Areas too steep and rocky for these harvest systems were not logged. Old haul roads are evident throughout the site. Prior to 1980, approximately 60 million board feet of timber were extracted from the Case Mountain/Milk Ranch Peak area, primarily during the early 1950s. The BLM acquired 480 acres of privately owned land in 1980 that appeared to have been lightly logged several decades before. The seller still retained the rights to harvest half the remaining merchantable timber, excluding giant sequoia, and in 1981 harvested and trucked three million board feet of timber to the Dinuba mill.

A 4,500-acre lightning-caused fire in late August 1987 burned over much of Case Mountain with high (stand-replacing) intensities for approximately two weeks. The three giant Sequoia groves on public land were not damaged by fire, and most of the public lands were subject to low intensity burning that stayed on the ground.

## *B.8 Regional Wildlife Descriptions*

### *Coast Region*

Two National Wildlife Refuges occur in this region. The Guadalupe-Nipomo Dunes National Wildlife Refuge is approximately 9.5 miles north of public land within the Pt. Sal ACEC and was established to protect breeding habitat for the endangered California least tern and the threatened snowy plover. The Pt. Sal ACEC is managed to protect cultural, visual, geological, and biological resources, including rare, threatened, and endangered plant and animal species. The Hopper Mountain National Wildlife Refuge was established to protect the endangered California condor, its habitat, and other resources. The BLM manages approximately 2,025 acres of public land and 3,240 acres of split estate as the Hopper Mountain Special Management Area (SMA). The objective of the Hopper Mountain SMA is to support the California Condor Recovery Program and to complement management of the adjacent Sespe Condor Sanctuary, Hopper Mountain National Wildlife Refuge, and the Sespe-Piru Critical Condor Habitat Area.

The Coast Region provides suitable living conditions for a variety of plant and animal communities. The principal wildlife values found in this area are the state and federally listed and special status animals and those habitats and animals on public land.

Several federally listed species usually considered San Joaquin Valley specialties are found in a limited portion of the Coast Region. The San Joaquin kit fox is found in two areas, the San Juan Creek drainage and a disjunct population at Camp Roberts. The Camp Roberts kit fox population has declined substantially and may no longer be viable. The blunt-nosed leopard lizard and giant kangaroo rat are also found in the San Juan Creek drainage. There is little BLM-managed public land in this drainage, and the presence of these species is undetermined. The federally listed vernal pool fairy shrimp also occurs at Camp Roberts.

The BLM's involvement at Camp Roberts is limited to oil and gas leasing and development. Opportunities for the BLM to manage beyond the requirements of NEPA and the ESA are limited by the small amount of surface acreage under its control.

Approximately five acres of public land in the Los Osos area provides habitat for the federally listed Morro shoulderband snail and is designated critical habitat for the species. The parcel is also historic habitat for the federally listed Morro Bay kangaroo rat.

Public land in the Lompoc area provides potential habitat for the California tiger salamander. Critical habitat includes approximately one acre of public land and 20 acres of split estate.

Potential habitat for the California red-legged frog may occur on public land in the Coast Region. The frogs are known from state land next to public land at Piedras Blancas. Critical habitat includes approximately 80 acres of public land north of Cachuma Lake and approximately 120 acres of split estate near Garcia Mountain.

Critical habitat for arroyo southwestern toad and the coastal California gnatcatcher include split estate. Arroyo southwestern toad critical habitat includes 36 acres of split estate along the Sisquoc River. Additional split estate occurs nearby but outside the critical habitat boundary. Critical habitat for the coastal California gnatcatcher includes 320 acres of split estate near the Ventura-Los Angeles county line. Potential habitat includes public land at South Mountain and estate from Oak Ridge to South Mountain.

Portions of two critical habitat units for steelhead occur in the Coast Region. The south-central California coast critical habitat unit includes approximately 3/8 mile of stream on public land within the Cypress Mountain ACEC and along Dairy Creek, and one and a third miles of stream on split estate within the Salinas River ACEC and Irish Hills SMA and along the north fork of Pico Creek and San Carpoforo Creek. The southern California coast critical habitat unit includes approximately half a mile of stream on public land within the Hopper Mountain SMA and 100 feet of stream on split estate along Gobernador Creek.

Public land in the Coast Region provides habitat for the California condor. The Coast Region includes designated critical and essential condor habitat. The Hi Mountain Critical Habitat Area contains approximately 500 acres of public land near Big Baldy. Public land and split estate in the Hopper Mountain area provides condor nesting and roosting habitat.

Two other raptors of special interest occur within the Coast Region. The peregrine falcon, now a recovered species, is known to use public land at Point Sal and Piedras Blancas. The California spotted owl may occur on public land, especially on parcels next to Los Padres National Forest.

A number of special status wildlife species are restricted to the coastline habitats, offshore rocks, or waters at Point Sal and Piedras Blancas. These are the California brown pelican, western snowy plover, California least tern, marbled murrelet, southern sea otter, northern sea lion, and humpback whale. Three additional species, California sea lion, harbor seal, and northern fur seal, are not special status species but are protected by the Marine Mammal Protection Act. Point Sal is an ACEC with management directives appropriate for the area's importance to cultural and wildlife resources. Piedras Blancas is a National Historic Landmark. Management objectives for both areas include the protection of marine mammals and other wildlife. Western snowy plover habitat also occurs on 10 acres of mineral estate at the southern end of the Pacific Missile Test Center. The surface is managed by the Department of Defense whose management plan provides a benefit to the plover (USFWS 2005).

Abandoned mines and other features provide habitat for several BLM sensitive bat species. Mines in the Coast Ranges, such as Rinconada Mine and Klau Mine, are used by the Townsend's big-eared bat, pallid bat, Yuma myotis, fringed myotis, western pipistrelle, Mexican free-tailed bat, and big brown bat.

The Coast Region contains small to moderate numbers of big and upland game animals. A small herd of tule elk are resident at Camp Roberts. Quail, mourning dove, and chukar partridge are found in small to moderate numbers.

All or a portion the Adelaidea, Pozo, Santa Barbara-Ventura, and Shandon deer herd units occur within the Coast Region, within the Central Coast (south) Deer Assessment Unit 9 (DAU 9). Deer populations are composed of black-tailed deer in the north and California mule deer in the south. Deer in the unit are resident animals that exhibit some upslope and downslope movement with seasonal changes in weather and forage conditions. Population numbers range from 70,000 to 120,000 and are considered to be stable (CDFG 2007, 2008c). Public land managed by the BLM provides four percent of the habitat.

Besides those raptors already mentioned, the Coast Region provides nesting habitat for golden eagle, red-tailed hawk, red-shouldered hawk, American kestrel, prairie falcon, Cooper's hawk, sharp-shinned hawk, turkey vulture, western screech owl, burrowing owl, long-eared owl, northern saw-whet owl, and flammulated owl. The grass-dominated areas provide important wintering habitat for ferruginous hawk, northern harrier, merlin, rough-legged hawk, and short-eared owl. Swainson's hawks also forage over grasslands during fall and spring migrations. In addition to raptors, these grasslands provide important habitat for long-billed curlew and mountain plover.

### *Valley Region*

Three National Wildlife Refuges, Kern, Pixley, and Bittercreek, occur in this region. Approximately 920 acres of BLM-managed public land are within the boundaries of Bittercreek National Wildlife Refuge. The BLM manages 920 acres of public land and 4,840 acres of split estate as the Bittercreek SMA. This is a threatened and endangered species conservation area and is compatible with the USFWS management of the surrounding Bittercreek National Wildlife Refuge. The USFWS established the Bittercreek National Wildlife Refuge to protect foraging habitat for the California condor. There are no public lands within or next to the Kern or Pixley National Wildlife Refuges.

Two National Cooperative Land and Wildlife Management Areas, the Caliente and the Temblor, include approximately 78,630 acres of public land in the Caliente and Temblor Mountain Ranges within the Valley Region. An additional 78,630 acres are within the Carrizo Plain National Monument and are not part of the Bakersfield RMP Decision Area. These National Cooperative Land and Wildlife Management Areas were established in 1961 to be managed by the BLM for the development, conservation, use, and maintenance of their natural resources, including their recreational and wildlife resources (Public Land Order 2326, January 26, 1962, and Public Land Order 2460, May 8, 1957). These National Cooperative Land and Wildlife Management Areas are withdrawn from application under the nonmineral public land laws, and from disposition under the homestead, desert land, and script selection laws (Public Land Order 2326, January 26, 1962, and Public Land Order 2460, May 8, 1957. These areas are managed as the Caliente and Temblor National Cooperative Land and Wildlife Management Area SMA. The Caliente and Temblor NCLWMA SMA is managed to improve and maintain vegetation communities that will benefit wildlife species, including deer, chukar, and quail.

Recent historic range of the California condor includes lands along the western, southern, and eastern border of the Valley Region (USFWS 1996). A portion of the Tejon Ranch Critical Habitat Area is within this region and includes 40 acres of public land and 240 acres of split estate. Essential habitat is deemed important for the recovery of a species but does not have the legal protection of the ESA (USFWS 1984). The San Juan Creek Essential Condor Habitat Area contains approximately 8,000 acres of public land and 7,000 acres of split estate near Freeborn Mountain, Hubbard Hill, and Cholame. The Glennville-Woody Essential Condor Habitat area includes 1,894 acres of public land and approximately 20,000 acres of split estate. Approximately 20,840 acres of public land and 6,480 acres of split estate are within the Carrizo and Elkhorn Plains Essential Condor Habitat Area. The Southwestern Kern County Essential Condor

Habitat Area includes 7,680 acres of public land and 14,000 acres of split estate near Bittercreek National Wildlife Refuge and the Windwolves Preserve. In 1998, the US Fish and Wildlife Service considered a potential condor release site on public land and private land within the Windwolves Preserve. Supplemental condor feeding stations occur at Windwolves Preserve, Bittercreek National Wildlife Refuge, and Tejon Ranch. Public land adjacent to Bitter Creek National Wildlife Refuge in the Headwall Oaks area provide roosting habitat, while the remaining public land in the Valley Region serves primarily as foraging habitat (USFWS 1996).

Blunt-nosed leopard lizards, San Joaquin kit fox, and San Joaquin antelope squirrel are known to occur on public lands throughout the region, including Kettleman Hills, Avenal, Buena Vista Valley, NPR-2, Lokern, Maricopa, Cuyama Valley, and Poso Creek. Giant kangaroo rats are known to occur on public lands throughout the west half of the region, including the NPR-2, Lokern Road, Midway Valley, and Buena Vista Valley. Giant kangaroo rats may occur on public lands in the Cuyama Valley. Tipton kangaroo rats are known to occur on public land at Atwell Island, NPR-2, and within the Alkali Sink ACEC near Copus Road. Tipton kangaroo rats may also occur on other scattered tracts of public land that are east of or next to the California Aqueduct and that support the alkali sink habitat used by the Tipton kangaroo rat. The Valley Region includes one 40-acre parcel of public land and scattered parcels of split estate within the historic range of the Fresno kangaroo rat. No known extant populations of the Fresno kangaroo rat are known to exist within the historic range. Potential habitat for the Buena Vista Lake shrew may occur on public lands in the Alkali Sink ACEC, Atwell Island, and one parcel of land at NPR-2. The Kern primrose sphinx moth was discovered in the Cuyama Valley in 2004 and is likely to occur on public land (Jump 2008). The Cuyama Valley is also an area of hybridization between the blunt-nosed and long nosed leopard lizard. While hybrids are not protected by law, the hybridization zone has been a topic of repeated scientific study (Montanucci 1970; LeFevre 1974, 1975).

The US Fish and Wildlife Service has published recovery plans for the California condor and the San Joaquin Valley suite of species (USFWS 1996, 1998). One of the actions in the Recovery Plan for Upland Species of the San Joaquin Valley, California (USFWS 1998) is to establish a system of multispecies reserves and corridors. These reserves and corridors include significant amounts of public land in Kettleman Hills, Avenal, NPR-2, Buena Vista Valley, Semitropic Ridge, Lokern Road, Lost Hills, Telephone Hills, Bitterwater Creek, Chico-Martinez, Midway Valley, and Upper Cuyama (Map 3.6)(see *A Conservation Strategy for Threatened and Endangered Species in the San Joaquin Valley*). Private lands have also been acquired or placed in mitigation banks in the Lokern Road Area, Buena Vista Valley, NPR-2, and Semitropic Ridge. In addition, the Atwell Island land retirement project is preserving remnant alkali sink habitat and is restoring previously irrigated farmlands to upland natural communities to implement recovery tasks of the San Joaquin Valley Upland Species Recovery Plan.

California red-legged frog critical habitat includes approximately 200 acres of public land and 600 acres of split estate near Blue Stone Ridge. One adult and one juvenile California red-legged frog was observed in a permanent pocket of water approximately a tenth of a mile from public land in 2001 (CDFG 2008b). Critical habitat for the California tiger salamander also occurs near Blue Stone Ridge in the Palo Prieto Pass but does not include any public land or split estate.

Critical habitat for the vernal pool fairy shrimp includes six acres of public land near Pixley National Wildlife Refuge. The vernal pool fairy shrimp has the potential to occur on 140 acres of split estate near Pixley National Wildlife Refuge.

Public land in the Valley Region provides important habitat for a number of BLM sensitive species and California Species of Concern. Such species include burrowing owl, mountain plover, LeConte's thrasher, Tulare grasshopper mouse, and western spadefoot toad.

All or a portion of six deer herd units are within the Valley Region. The Mt. Pinos, Shandon, Avenal, and Pozo deer herd units are within DAU 9, which is discussed above under the Coast Region. The Tejon and South Sierra-Foothill deer herd units are within the South Sierra DAU 7. Deer populations are composed of California mule deer. The nonmigratory Tejon herd was estimated at 1,820 in 2006 and had a stable to declining trend (CDFG 2007, 2008c). Approximately 3,450 acres of public land managed by the BLM is within the Tejon herd unit. The South Sierra-Foothill herd was estimated at 11,760 in 2006 and had a generally upward trend (CDFG 2007, 2008c). The South Sierra-Foothill herd is migratory, with much of the summer range on Forest Service or National Park Service land. Much of the winter range is on private or Forest Service public land. The Valley Region includes approximately 2,200 acres of public land managed by the BLM in the South Sierra-Foothill deer herd unit. Public land managed by the BLM provides four percent of the habitat in DAU 7.

Resident deer also occur throughout the region. No specific plans are written for these herds. For most of these resident deer, fawning habitat consists of meadows and riparian zones with dense cover. No other key habitat areas have been identified. Shrubland areas that provide browse may also be considered key habitat.

CDFG has released pronghorn at various locations in this region, including the Carrizo Plains and Antelope Valley. Pronghorn observations have been reported from Plieto Hills and Blackwells Corner in the north, through the foothills of the Temblors, and south to Camp Dix. Pronghorn are occasionally observed in the Lokern area and also in the eastern portion of this region near Arvin, Cottonwood Creek, and northwest of Bena. Although no specific observations occur for public lands, it is likely that pronghorn occur on public lands.

Tule elk were introduced into the Carrizo Plain in the 1980s (BLM 2008e). The resulting Poso herd unit numbers about 500, and animals commonly occur in the Chimineas Ranch and Taylor Canyon areas.

Wild pigs are known to occur on public land along the north and west flank of the Caliente Range, adjacent to the Carrizo Plain. California quail, chukar, and dove occur throughout the Temblor and Caliente Ranges.

The Valley Region provides habitat for a variety of raptor species, including most of those discussed under the Coast Region. In particular, burrowing owl, Swainson's hawk, red-tailed hawk (*Buteo jamaicensis*), ferruginous hawk, short-eared owl, and white-tailed kite make use of public land in the Valley Region. Kettleman Hills is an especially important foraging, nesting, and wintering area for raptors.

#### *AQUATIC, WETLAND, AND RIPARIAN HABITAT*

When seasonally flooded, public lands at Goose Lake, Copus Road, and Atwell Island provide wetland habitat for numerous water birds, such as black-necked stilt, American avocet, greater yellow-leg, long-billed dowitcher, western and least sandpipers, mallard, cinnamon teal, green-winged teal, gadwall, northern shoveler, and white pelican. Irrigation canals at Atwell Island provide wetland habitat throughout the year. Scattered springs are known to occur on public land in the region, with many of these occurring in the Caliente, Temblor, and San Emigdio Mountain ranges or foothills. Most of these

springs support an area of riparian vegetation around the source, and many support a linear riparian zone as their outflow travels downstream.

### *Sierra Region*

One National Wildlife Refuge, Blue Ridge, occurs in this region. The Blue Ridge National Wildlife Refuge was established to protect important roosting habitat for the California condor. The BLM manages approximately 3,195 acres of public land and 2,100 acres of split estate next to the Blue Ridge National Wildlife Refuge as the Blue Ridge ACEC to protect designated critical condor habitat.

One National Cooperative Land and Wildlife Management Area, Monache Walker Pass National Cooperative Land and Wildlife Management Area, includes approximately 27,000 acres of public land near Lake Isabella, 17,000 acres of public land in the Kelso Creek Valley, and 94,800 acres of public land in the Chimney Peak and Walker Pass area. Public land in the Monache Walker Pass National Cooperative Land and Wildlife Management Area is managed as an SMA to improve and maintain a diverse assemblage of vegetation communities to benefit wildlife resources. Each vegetative community will be managed to perpetuate that particular community and the various wildlife species associated with it.

Recent historic range of the California condor includes lands along the western edge of the Sierra Region east to the foothills of the Sierra Nevada (USFWS 1996). Three of the nine federally designated critical condor habitat areas occur within this region. The Kern County Rangelands Critical Habitat Area includes 120 acres of public land and 4,760 acres of split estate near the town of Woody. The Tulare County Rangelands Critical Habitat Area includes 80 acres of public land near Chickencoop Canyon and 120 acres of split estate near Frazier Valley. The Tejon Ranch Critical Habitat Area includes 80 acres of public land and 11,565 acres of split estate in the Sierra Region. Approximately 500 acres of public land within the Tejon Ranch Critical Habitat Area were sold to Tejon Ranch in 1986 after formal consultation with the US Fish and Wildlife Service (USFWS 1985; BLM 1985a).

The Blue Ridge Critical Habitat Area includes 3,195 acres of public land and 2,100 acres of split estate. Landowners within the Blue Ridge Critical Habitat Area include the BLM (3,268 acres), US Fish and Wildlife Service (898 acres), California Department of Fish and Game (596 acres), California State Lands Commission (320 acres), and California Department of Forestry (one acre). The 898 acres owned by the US Fish and Wildlife Service has been designated the Blue Ridge National Wildlife Refuge. An interagency habitat management plan for the Blue Ridge area was written in 1986 (BLM 1986a). The area is also a designated ACEC.

Essential habitat for the California condor occurs in the Woody Glennville area of the Sierra Region and includes approximately 1,900 acres of public land and 20,000 acres of split estate. Historically, condors have used public land in the Tehachapi Mountains, such as Cummings Mountain and other scattered parcels.

Vernal pools at Kennedy Table and Table Mountain provides known habitat for the vernal pool fairy shrimp and potential habitat for the vernal pool tadpole shrimp. Critical habitat for the vernal pool fairy shrimp includes 60 acres of public land at Kennedy Table. Critical habitat for the vernal pool tadpole shrimp includes 219 acres of public land and 840 acres of split estate at Table Mountain.

Suitable habitat for the valley elderberry longhorn beetle occurs on public land throughout the Sierra Planning Area. Exit holes resembling those of valley elderberry longhorn beetle have been observed on

public lands at San Joaquin River Gorge, Three Rivers, and Keyesville and on scattered tracts in Fresno, Madera, Tulare, and Kern Counties.

Critical habitat for the central California population of the California tiger salamander occurs within the Sierra Region but does not include any public land or split estate. Public land near Raymond is immediately adjacent to critical habitat and it likely to be used by tiger salamanders as terrestrial habitat (Hansen 2005). A survey of ponds in the San Joaquin River Gorge found no evidence of tiger salamanders, although a BLM employee reported observing one in 2003 (Hansen 2009). Abundant suitable habitat is present, but it may be too isolated from large areas of occupied habitat near Millerton Lake. The San Joaquin River Gorge could serve as a reintroduction site, perhaps in response to habitat loss near Friant (Hansen 2009). Terrestrial habitat for tiger salamanders may also occur on public land near the San Joaquin Experimental Range.

California red-legged frogs historically occurred in the Sierra Region (Jennings and Hayes 1994). No extant populations are thought to occur along the Sierra foothills in Madera, Fresno, Tulare, or Kern Counties (Jennings and Hayes 1994). The California red-legged frog is unlikely to occur on public land or split estate in the Sierra Region.

Critical habitat for the southwestern willow flycatcher includes 400 acres of public land along the south fork of the Kern River. The western yellow-billed cuckoo also has the potential to occur on public land in the south fork area.

Kern primrose sphinx moth occurs in the Walker Basin area. Public land may be next to potential habitat for the sphinx moth.

Pacific fisher and California spotted owls have been documented on public lands in the Case Mountain area. California spotted owls are also suspected in other forested parts of the region or nonforested areas with dense stringers of riparian forest. Such habitat may exist on land near Milk Ranch Peak, Chimney Peak, and the San Joaquin River Gorge.

Public land in the Sierra rprovides important habitat for a number of state listed species, BLM sensitive species, and California species of concern. Public land in the Caliente Creek area provides habitat for the Tehachapi slender salamander and yellow-blotched salamander. Abandoned mines, especially in the Keyesville and Caliente Creek area provide habitat for bats, including the pallid bat, Townsend's big-eared bat, fringed myotis, and Yuma myotis. A small isolated population of burrowing owls occurs in the South Lake area. Burrowing owls also occur in the Kelso Valley area (Foothill Institute 1980). Pond turtles occur on public land at the San Joaquin River Gorge, Salt Creek, White River, and Erskine Creek. The willow flycatcher is likely to occur in the Chimney Peak area. The bald eagle and the peregrine falcon have been observed within the planning area and may make use of public lands.

All or a portion of eight deer herd units are within the Sierra Region. All are within DAU 7 and are composed of California mule deer. The south Sierra Foothill deer herd unit is discussed above under the Valley Region. The Sierra Region includes approximately 12,600 acres of public land managed by the BLM within the south Sierra Foothill deer herd unit. The migratory Hume, Kaweah, Tule, Greenhorn, and Kern River deer herd units are within Deer Hunt Zone D8. The population of Deer Hunt Zone D8 was estimated at 10,520 in 2006 and was stable to declining (CDFG 2007, 2008c). The Sierra Region includes approximately 52,700 acres of public land managed by the BLM in these five deer herd units. The nonmigratory Piute deer herd was estimated at 3,150 in 2006 and is stable (CDFG 2007, 2008c). This Sierra Region includes 79,746 acres of public land managed by the BLM in the Havilah, Walker Basin,

Kelso Valley, and Tehachapi areas. The migratory Monache deer herd was estimated at 880 in 2006 and is stable (CDFG 2007, 2008c). Public land includes approximately 108,700 acres of winter range in the Chimney Peak area.

Resident deer also occur throughout the region. No specific plans are written for these herds. For most of these resident deer, fawning habitat consists of meadows and riparian zones with dense cover. No other key habitat areas have been identified. Shrubland areas that provide browse may also be considered key habitat.

Pronghorn have been sighted within the region near Arvin and Tehachapi. All observations were on private land.

Besides those raptors already mentioned, the Sierra Region provides habitat for a variety of raptor species, including most of those discussed under the Coast Region. Barn owls roost and nest in abandoned mines and buildings. Great-horned owl, screech owl, saw-whet owl, and pygmy owl are likely to use public lands in the Sierra Region. Prairie falcon, golden eagle, and red-tailed hawk nest on public land in the Chimney Peak and San Joaquin River Gorge.

*AQUATIC, WETLAND, AND RIPARIAN HABITAT*

Extensive riparian inventories have been completed for 14 watersheds in the region. Based on these inventories at least 20 miles of riparian forest, 40 miles of riparian scrub, one mile of marshland and two miles of strandland occur on public lands in the region. Strandlands are beach and river channel communities subject to infrequent but periodic submersion (BLM 1987). Vegetation alliances represented on public land includes alder, cottonwood-willow, oak, and willow. Based on inventory and monitoring conducted by BLM between 1987 and 2009, approximately 67 miles of inventoried stream are in good to excellent condition, and 1.3 miles were in poor to fair condition.

Numerous springs occur throughout the region. Most support an area of riparian vegetation around the source and many support a linear riparian zone as their outflow travels downstream. Based on inventory and monitoring conducted by BLM between 1984 and 2009, approximately 1,000 springs have been inventoried, 80 percent of which are in good to excellent condition and 20 percent are in poor to fair condition.

## *B.9 Special Status Plant Species Listings*

**Table B-4**
**Special Status Plant Species in the Bakersfield FO Planning Area**

| | | | Likelihood of Occurrence within Planning Units [2] | | |
|---|---|---|---|---|---|
| ***Scientific Name*** | **Common Name** | **Status[1]** | **Coast** | **Valley** | **Sierra** |
| *Abies bracteata* | bristlecone fir | S | P | | |
| *Agrostis hooveri* | Hoover's bent grass | S | C | | |
| *Allium hickmanii* | Hickman's onion | S | P | | |
| *A. howellii* var. *clokeyi* | Mt. Pinos onion | S | P | P | |
| *A. shevockii* | Spanish Needle onion | S | | | C |
| *Ancistrocarphus keilii* | Santa Ynez groundstar | S | S | | |

**Table B-4**
**Special Status Plant Species in the Bakersfield FO Planning Area**

| | | | Likelihood of Occurrence within Planning Units [2] | | |
|---|---|---|---|---|---|
| ***Scientific Name*** | **Common Name** | **Status[1]** | **Coast** | **Valley** | **Sierra** |
| *Aphanisma blitoides* | Aphanisma | S | P | | |
| *Arabis bodiensis* | Bodie Hills rock cress | S | | | U |
| *Arctostaphylos cruzensis* | La Cruz manzanita | S | P | | |
| *A. hookeri* ssp. *Hearstiorum* | Hearsts' manzanita | S | P | | |
| *A. Luciana* | Santa Lucia manzanita | S | P | | |
| *A. montereyensis* | Monterey manzanita | S | P | | |
| *A. morroensis* | Morro manzanita | T | C | | |
| *A. osoensis* | Oso manzanita | S | P | | |
| *A. pechoensis* | Pecho manzanita | S | P | | |
| *A. pilosula* | Santa Margarita manzanita | S | C | | |
| *A. purissima* | La Purisima manzanita | S | P | | |
| *A. refugioensis* | Refugio manzanita | S | P | | |
| *A. rudis* | sand mesa manzanita | S | C | | |
| *A. tomentosa* ssp. *Daciticola* | dacite manzanita | S | P | | |
| *A. tomentosa* ssp. *Eastwoodiana* | Eastwood's manzanita | S | P | | |
| *A. wellsii* | Wells' manzanita | S | P | | |
| *Arenaria paludicola* | marsh sandwort | E | P | | |
| *Aristocapsa insignis* | Indian Valley spineflower | S | | C | |
| *Astragalus brauntonii* | Braunton's milk-vetch | E | U | | |
| *A. didymocarpus* var. *milesianus* | Mile's milk-vetch | S | P | | |
| *A. ertterae* | Walker Pass milk-vetch | S | | | C |
| *A. hornii* var. *hornii* | Horn's milk-vetch | S | | C | |
| *A. lentiginosus* var. *kernensis* | Kern Plateau milk-vetch | S | | | P |
| *A. pycnostachyus* var. *lanosissimus* | Ventura marsh milk-vetch | E | U | | |
| *A. shevockii* | Shevock's milk-vetch | S | | | C |
| *Atriplex cordulata* | heartscale | S | | C | |
| *A. coronata* var. *notatior* | San Jacinto Valley crownscale | E | | M | |
| *A. coulteri* | Coulter's saltbrush | S | P | | |
| *A. depressa* | brittlescale | S | | P | |
| *A. erecticaulis* | Earlimart orache | S | | P | |
| *A. joaquiniana* | San Joaquin spearscale | S | | P | |
| *A. minuscula* | lesser saltscale | S | | P | |
| *A. pacifica* | South Coast saltscale | S | U | | |
| *A. persistens* | vernal pool smallscale | S | | P | |

**Table B-4**
**Special Status Plant Species in the Bakersfield FO Planning Area**

| | | | Likelihood of Occurrence within Planning Units [2] | | |
|---|---|---|---|---|---|
| ***Scientific Name*** | **Common Name** | **Status[1]** | **Coast** | **Valley** | **Sierra** |
| *A. serenana* var. *davidsonii* | Davidson's saltscale | S | P | | |
| *A. subtilis* | subtle orache | S | | C | |
| *A. tularensis* | Bakersfield smallscale | S | | P | |
| *A. vallicola* | Lost Hills saltbush | S | | C | |
| *Baccharis plummerae* ssp. *Glabrata* | San Simeon baccharis | S | P | | |
| *Bloomeria humilis* | dwarf goldenstar | S | P | | |
| *Brodiaea filifolia* | thread-leaved brodiaea | T | M | | |
| *B. insignis* | Kaweah brodiaea | S | | | C |
| *California macrophyllum* | round-leaved filaree | S | C | | C |
| *Calochortus clavatus* ssp. *Recurvifolius* | Arroyo De La Cruz mariposa lily | S | P | | |
| *C. obispoensis* | San Luis mariposa lily | S | C | | |
| *C. palmeri* var. *palmeri* | Palmer's mariposa lily | S | P | | P |
| *C. plummerae* | Plummer's mariposa lily | S | P | | |
| *C. simulans* | San Luis Obispo mariposa lily | S | S | | |
| *C. striatus* | alkali mariposa lily | S | | C | C |
| *C. weedii* var. *vestus* | late-flowered mariposa lily | S | P | | |
| *C. westonii* | Shirley Meadows star-tulip | S | | | C |
| *Calycadenia villosa* | dwarf calycadenia | S | S | | |
| *Calyptridium parryi* var. *hesseae* | Santa Crus Mtns. Pussypaws | S | S | | |
| *Calyptridium pulchellum* | Mariposa pussypaws | T | | | S |
| *Calystegia subacaulis* ssp. *Episcopalis* | Cambria morning-glory | S | P | | |
| *Camissonia hardhamiae* | Hardham's evening primrose | S | S | | |
| *C. integrifolia* | Kern River evening primrose | S | | | S |
| *Carex obispoensis* | San Luis Obispo sedge | S | C | | |
| *Carlquistia muirii* | Muir's tarplant | S | | | C |
| *Carpenteria californica* | tree anemone | S | | | S |
| *Castilleja campestris* var. *succulent* | succulent owl's-clover | T | | | C |
| *C. densiflora* ssp. *Obispoensis* | Obispo indian paintbrush | S | C | | |
| *Caulanthus amplexicaulis* var. *barbarae* | Santa Barbara jewelflower | S | P | | |
| *C. californicus* | California jewelflower | E | | C | |
| *C. coulteri* var. *lemmonii* | Lemmon's jewelflower | S | C | C | |
| *Ceanothus hearstiorum* | Hearst's ceanothus | S | P | | |
| *C. maritimus* | maritime ceanothus | S | P | | |

**Table B-4**
**Special Status Plant Species in the Bakersfield FO Planning Area**

| | | | Likelihood of Occurrence within Planning Units [2] | | |
|---|---|---|---|---|---|
| ***Scientific Name*** | **Common Name** | **Status[1]** | **Coast** | **Valley** | **Sierra** |
| *Centromadia parryi* ssp. *Australis* | southern tarplant | S | P | | |
| *C. parryi* ssp. *congdonii* | Congdon's tarplant | S | P | | |
| *Chamaesyce hooveri* | Hoover's spurge | T | | P | |
| *Chlorogalum pomeridianum* var. *minus* | dwarf soaproot | S | P | | |
| *C. purpureum* var. *purpureum* | purple amole | T | S | | |
| *C. purpureum* var. *reductum* | Camatta Canyon amole | T | P | | |
| *Chorizanthe blakleyi* | Blakley's spineflower | S | P | | |
| *C. breweri* | Brewer's spineflower | S | C | | |
| *C. parryi* var. *fernandina* | San Fernando Valley spineflower | S | P | | |
| *C. pungens* var. *pungens* | Monterey spineflower | T | P | | |
| *C. rectispina* | straight-awned spineflower | S | C | | |
| *Cirsium crassicaule* | slough thistle | S | | C | |
| *C. fontinale* var. *obispoense* | Chorro Creek bog thistle | E | C | | |
| *C. loncholepis* | La Graciosa thistle | E | S | | |
| *C. occidentale* var. *compactum* | compact cobwebby thistle | S | C | | |
| *C. rhothophilum* | surf thistle | S | S | | |
| *Clarkia australis* | small southern clarkia | S | | | S |
| *C. jolonensis* | Jolon clarkia | S | P | | |
| *C. speciosa* ssp. *Immaculate* | Pismo clarkia | E | P | | P |
| *C. springvillensis* | Springville clarkia | T | | | C |
| *C. tembloriensis* ssp. *Calientensis* | Caliente clarkia | S | | S | |
| *C. xantiana* ssp. *Parviflora* | Kern Canyon clarkia | S | | | P |
| *Collinsia antonina* | San Antonio collinsia | S | P | | |
| *Cordylanthus eremicus* ssp. *Kernensis* | Kern Plateau bird's-beak | S | | | P |
| *C. maritimus* ssp. *Maritimus* | salt marsh bird's-beak | E | P | | |
| *C. mollis* ssp. *hispidus* | hispid bird's-beak | S | | C | |
| *C. palmatus* | palmate-bracted bird's-beak | E | | U | |
| *C. rigidus* ssp. *littoralis* | seaside bird's-beak | S | S | | |
| *Cryptantha incana* | Tulare cryptantha | S | | | P |
| | | | | | |
| *Deinandra arida* | Red Rock tarplant | S | | | P |

**Table B-4**
**Special Status Plant Species in the Bakersfield FO Planning Area**

| | | | Likelihood of Occurrence within Planning Units [2] | | |
|---|---|---|---|---|---|
| ***Scientific Name*** | **Common Name** | **Status[1]** | **Coast** | **Valley** | **Sierra** |
| *D. halliana* | Hall's tarplant | S | P | | |
| *D. increscens* ssp. *foliosa* | leafy tarplant | S | P | | |
| *D. increscens* ssp. *villosa* | Gaviota tarplant | E | S | | |
| *D. minthornii* | Santa Susana tarplant | S | P | | |
| *D. mohavensis* | Mojave tarplant | S | P | P | |
| *Delphinium inopinum* | unexpected larkspur | S | | | P |
| *D. parryi* ssp. *Blochmaniae* | dune larkspur | S | C | | |
| *D. purpusii* | Kern County larkspur | S | | | C |
| *D. recurvatum* | valley larkspur | S | | C | |
| *D. umbraculorum* | umbrella larkspur | S | C | | |
| *Dithyrea maritima* | beach spectaclepod | S | C | | |
| *Dudleya abramsii* ssp. *bettinae* | San Luis Obispo serpentine dudleya | S | P | | |
| *D. abramsii* ssp. *murina* | San Luis Obispo dudleya | S | C | | |
| *D. blochmaniae* ssp. *blochmaniae* | Blochman's dudleya | S | P | | |
| *D. cymosa* ssp. *agourensis* | Santa Monica Mountains dudleya | T | U | | |
| *D. cymosa* ssp. *costafolia* | Pierpoint Springs dudleya | S | | | P |
| *D. cymosa* ssp. *marcescens* | marcescent dudleya | T | U | | |
| *D. parva* | Conejo dudleya | T | U | | |
| *D. verityi* | Verity's dudleya | T | U | | |
| *Entosthodon kochii* | Koch's cord moss | S | S | | |
| *Eremalche parryi* ssp. *kernensis* | Kern mallow | E | | C | |
| *Eriastrum hooveri* | Hoover's woolystar | D | | C | |
| *E. luteum* | yellow-flowered eriastrum | S | C | | |
| *Ericameria gilmanii* | Gilman's goldenbush | S | | | P |
| *Erigeron aequifolius* | Hall's daisy | S | | | P |
| *E. blochmaniae* | Blochman's leafy daisy | S | S | | |
| *E. inornatus* var. *keilii* | Keil's daisy | S | | | P |
| *E. multiceps* | Kern River daisy | S | | | C |
| *Eriogonum kennedyi* var. *austromontanum* | southern mountain buckwheat | T | P | | |
| *Eriodictyon altissimum* | Indian Knob mountainbalm | E | C | | |
| *E. capitatum* | Lompoc yerba santa | E | S | | |
| *E. breedlovei* var. *breedlovei* | Breedlove's buckwheat | S | | | P |
| *E. crocatum* | Conejo buckwheat | S | P | | |
| *E. kennedyi* var. *pinicola* | Cache Peak buckwheat | S | | | C |

**Table B-4**
**Special Status Plant Species in the Bakersfield FO Planning Area**

| | | | Likelihood of Occurrence within Planning Units [2] | | |
|---|---|---|---|---|---|
| ***Scientific Name*** | **Common Name** | **Status[1]** | **Coast** | **Valley** | **Sierra** |
| *E. nudum* var. *murinum* | mouse buckwheat | S | | | C |
| *E. temblorense* | Temblor buckwheat | S | S | S | |
| *Eriophyllum lanatum* var. *hallii* | Fort Tejon woolly sunflower | S | P | P | |
| *Eryngium aristulatum* var. *hooveri* | Hoover's button-celery | S | P | | |
| *E. spinosepalum* | spiny-sepaled button-celery | S | | C | C |
| *Erythronium pusaterii* | Kaweah fawn lily | S | | | P |
| *Eschscholzia lemmonii* ssp. *kernensis* | Tejon poppy | S | | P | |
| *E. rhombipetala* | diamond-petaled California poppy | S | C | C | |
| *Fritillaria brandegeei* | Greenhorn fritillary | S | | | P |
| *F. ojaiensis* | Ojai fritillary | S | S | | |
| *F. striata* | striped adobe-lily | S | | C | C |
| *F. viridea* | San Benito fritillary | S | P | | |
| *Galium angustifolium* ssp. *onycense* | Onyx Peak bedstraw | S | | | C |
| *G. hardhamiae* | Hardham's bedstraw | S | C | | |
| *Githopsis tenella* | delicate bluecup | S | | | P |
| *Gratiola heterosepala* | Bogg's lake hedge-hyssop | S | | C | |
| *Grindelia hirsutula* var. *maritima* | San Francisco gumplant | S | P | | |
| *Hesperocyparis nevadensis* | Piute cypress | S | | | C |
| *Heterotheca shevockii* | Shevock's golden-aster | S | | | P |
| *Horkelia cuneata* ssp. *puberula* | mesa horkelia | S | P | | |
| *H. cuneata* ssp. *sericea* | Kellogg's horkelia | S | P | | |
| *H. tularensis* | Kern Plateau horkelia | S | | | P |
| *Hulsea brevifolia* | short-leaved hulsea | S | | | P |
| *Iris munzii* | Munz's iris | S | | | S |
| *Ivesia campestris* | field ivesia | S | | | P |
| *Juncus luciensis* | Santa Lucia dwarf rush | S | P | | |
| *Lasthenia californica* ssp. *macrantha* | perennial goldfields | S | P | | |
| *L. conjugens* | Contra Costa goldfields | E | U | | |
| *L. glabrata* ssp. *coulteri* | Coulter's goldfields | S | C | C | C |
| *Layia carnosa* | beach layia | E | P | | |
| *L. heterotricha* | pale-yellow layia | S | C | C | |
| *L. jonesii* | Jones' layia | S | C | | |
| *L. leucopappa* | Comanche Point layia | S | | C | |

**Table B-4**
**Special Status Plant Species in the Bakersfield FO Planning Area**

| | | | Likelihood of Occurrence within Planning Units [2] | | |
|---|---|---|---|---|---|
| ***Scientific Name*** | **Common Name** | **Status[1]** | **Coast** | **Valley** | **Sierra** |
| *L. munzii* | Munz's tidy tips | S | | S | |
| *Lepidium jaredii* ssp. *album* | Panchoe peppergrass | S | | P | |
| *L. jaredii* ssp. *jaredii* | Jared's peppergrass | S | | S | |
| *Leptosiphon serrulatus* | Madera linanthus | S | | | P |
| *Lewisia disepala* | Yosemite lewisia | S | | | P |
| *Lonicera subspicata* var. *subspicata* | Santa Barbara honeysuckle | S | P | | |
| *Lupinus citrinus* var. *citrinus* | orange lupine | S | | | S |
| *L. ludovicianus* | San Luis Obispo lupine | S | C | | |
| *L. nipomensis* | Nipomo mesa lupine | E | U | | |
| *L. padre-crowleyi* | Father Crowley's lupine | S | | | P |
| *Madia radiata* | showy madia | S | | S | |
| *Malacothamnus abbottii* | Abbott's bush-mallow | S | P | | |
| *Malacothamnus aboriginum* | Indian Valley bush-mallow | S | P | | |
| *Malacothamnus davidsonii* | Davidson's bush mallow | S | P | | |
| *M. palmeri* var. *involucratus* | Carmel Valley bush mallow | S | P | | |
| *M. palmeri* var. *palmeri* | Santa Lucia bush mallow | S | P | | |
| *Malacothrix saxatilis* var. *arachnoidea* | Carmel Valley malacothrix | S | P | | |
| *Microseris paludosa* | marsh microseris | S | P | | |
| *Mimulus gracilipes* | slender-stalked monkeyflower | S | | | S |
| *M. norrisii* | Kaweah monkeyflower | S | | | C |
| *M. pictus* | Calico monkeyflower | S | | C | C |
| *M. shevockii* | Kelso Creek monkeyflower | S | | | C |
| *Monardella crispa* | crisp monardella | S | C | | |
| *M. frutescens* | San Luis Obispo monardella | S | S | | |
| *M. linoides* ssp. *oblonga* | flax-like monardella | S | | P | P |
| *M. palmeri* | Palme's monardella | S | P | | |
| *Monolopia congdonii* | San Joaquin woollythreads | E | | C | C |
| *Nasturium gambelii* | Gambel's water cress | E | P | | |
| *Navarretia fossalis* | spreading navarretia | T | P | | |
| *N. nigelliformis* ssp. *radians* | shining navarretia | S | P | | |
| *N. peninsularis* | Baja navarretia | S | | | P |
| *N. prostrata* | prostrate pincushionplant | S | P | | |
| *N. setiloba* | Piute Mountains navarretia | S | | | S |
| *Nemacladus twisselmannii* | Twisselmann's nemacladus | S | | | P |

**Table B-4**
**Special Status Plant Species in the Bakersfield FO Planning Area**

| | | | Likelihood of Occurrence within Planning Units [2] | | |
|---|---|---|---|---|---|
| ***Scientific Name*** | **Common Name** | **Status[1]** | **Coast** | **Valley** | **Sierra** |
| *Nolina cismontana* | chaparral nolina | S | P | | |
| *Opuntia basilaris* var. *treleasei* | Bakersfield cactus | E | | S | S |
| *Orcuttia californica* | California Orcutt grass | S | P | | |
| *O. inaequalis* | San Joaquin Valley Orcutt grass | T | | C | C |
| *O. pilosa* | hairy Orcutt grass | E | | P | |
| *Oreonana vestita* | woolly mountain-parsley | S | | | P |
| *Orobanche valida* ssp. *valida* | Rock Creek broomrape | S | P | | |
| *Orthotrichum shevockii* | Shevock's bristle-moss | S | | | P |
| *O. spjutii* | Spjut's bristle-moss | S | | | P |
| *Oxytheca parishii* var. *abramsii* | Abrams's oxytheca | S | P | | |
| *Pedicularis dudleyi* | Dudley's lousewort | S | P | | |
| *Pentachaeta lyonii* | Lyon's pentachaeta | E | | U | |
| *Petrophyton caespitosum* ssp. acuminatum | marble rockmat | S | | | P |
| *Phacelia nashiana* | Charlotte's phacelia | S | | | C |
| *P. novenmillensis* | Nine Mile Canyon phacelia | S | | | C |
| *Pinus radiata* | Monterey pine | S | P | | |
| *Plagiobothrys uncinatus* | hooked popcorn-flower | S | S | | |
| *Poa diaboli* | Diablo Canyon blue grass | S | P | | |
| *Pseudobahia bahiifolia* | Hartweg's golden sunburst | E | | S | S |
| *P. peirsonii* | Tulare pseudobahia | T | | S | S |
| *Quercus dumosa* | Nuttall's scrub oak | S | P | | |
| *Ribes menziesii* var. *ixoderme* | aromatic canyon gooseberry | S | | | P |
| *R. tularense* | Sequoia gooseberry | S | | | C |
| *Sagittaria sanfordii* | Sanford's arrowhead | S | | | P |
| *Sanicula maritima* | adobe sanicle | S | C | | |
| *Scrophularia atrata* | black-flowered figwort | S | P | | |
| *Sidalcea hickmanii* ssp. *anomala* | Cuesta Pass checkerbloom | S | S | | |
| *S. hickmanii* ssp. *parishii* | Parish's checkerbloom | C | S | | |
| *S. keckii* | Keck's checkerbloom | E | | | S |
| *Streptanthus albidus* ssp. *peramoenus* | most beautiful jewelflower | S | S | | |
| *Streptanthus campestris* | southern jewelflower | S | P | | |
| *S. cordatus* var. *piutensis* | Piute Mountains jewelflower | S | | | C |
| *Stylocline citroleum* | oil neststraw | S | | C | |

**Table B-4**
**Special Status Plant Species in the Bakersfield FO Planning Area**

| | | | Likelihood of Occurrence within Planning Units [2] | | |
|---|---|---|---|---|---|
| ***Scientific Name*** | **Common Name** | **Status[1]** | **Coast** | **Valley** | **Sierra** |
| *S. masonii* | Mason neststraw | S | | S | S |
| *Suaeda californica* | California seablite | E | P | | |
| *S. esteroa* | estuary seablite | S | P | | |
| *Thermopsis macrophylla* | false lupine | S | P | | |
| *Tortula californica* | California tortula moss | S | | S | |
| *Trifolium depauperatum* var. *hydrophilum* | saline clover | S | P | | |
| *T. macilentum* var. *dedeckerae* | DeDecker's clover | S | | | C |
| *Triteleia ixioides* ssp. *cookii* | Cook's triteleia | S | P | | |
| *Tropidocarpum californicum* | King's gold | S | | P | |
| *Tuctoria greenei* | Greene's tuctoria | E | | P | |
| *Viola pinetorum* ssp. *grisea* | grey-leaved violet | S | | | P |

[1]Status
E = Federally-listed endangered
T = Federally-listed threatened
C = Federal candidate for listing
D = Federally delisted
S = BLM sensitive

[2] Likelihood of Occurrence within Planning Units:
C = Confirmed
S = Suspected
P = Potential
U = Unlikely

## *B.10 Special Status Animal Species Listings*

**Table B-5**
**Special Status Animal Species in the Bakersfield FO Planning Area**

| | | Status | | | | Occurrence | | |
|---|---|---|---|---|---|---|---|---|
| **Common Name** | ***Scientific Name*** | **Federal** | **BLM** | **State** | **Other** | **C** | **V** | **S** |
| **Snails** | | | | | | | | |
| Morro shoulderband snail | *Helminthoglypa walkeriana* | FE, CH | | | | K | N3 | N3 |
| **Fairy Shrimp And Tadpole Shrimp** | | | | | | | | |
| Longhorn fairy shrimp | *Branchinecta longiantenna* | FE, CH | | | | N1 | L1 | N3 |
| Vernal pool fairy shrimp | *Branchinecta lynchi* | FT, CH | | | | N1 | L1 | K |
| Conservancy fairy shrimp | *Branchinects conservatio* | FE, CH | | | | N1 | N2 | N2 |

**Table B-5**
**Special Status Animal Species in the Bakersfield FO Planning Area**

| | | Status | | | | Occurrence | | |
|---|---|---|---|---|---|---|---|---|
| **Common Name** | ***Scientific Name*** | **Federal** | **BLM** | **State** | **Other** | **C** | **V** | **S** |
| Vernal pool tadpole shrimp | *Lepidurus packardi* | FT, CH | | | | N3 | N3 | H |
| **Insects** | | | | | | | | |
| San Joaquin dune beetle | *Coelus gracilis* | | BLMS | | | N3 | L1 | N3 |
| Valley elderberry longhorn beetle | *Desmocerus dimorphus* | FT, CH | | | | N | L | H |
| Kern primrose sphinx moth | *Euproserpinus euterpe* | FT | | | | N | K | L1 |
| **Fish** | | | | | | | | |
| Tidewater goby | *Eucyclogobius newberryi* | FE, CH | | CSC | | N1 | N3 | N3 |
| Unarmored threespine stickleback | *Gasterosteus aculeatus williamsoni* | FE, PCH | | CE, FP | | N1 | N3 | N3 |
| Kern brook lamprey | *Lampetra hubbsi* | | | CSC | | N3 | N1 | N3 |
| Pacific lamprey | *L. tridentata* | | BLMS | | | L | N3 | N3 |
| Lahontan cutthroat trout | *Oncorhynchus clarki henshawi* | FT | | | | N3 | N3 | N3 |
| Paiute cutthroat trout | *O. c. seleniris* | FT | | | | N3 | N3 | N3 |
| CA golden trout (Volcano Creek) | *O. mykiss aguabonita* | REV | | CSC | | N3 | N3 | N2? |
| Kern River rainbow trout | *O. m. gilberti* | | | CSC | | N3 | N3 | N2 |
| Steelhead (Southern CA coast)* | *O. m. irideus* | FE, CH | | CSC | | N1 | N3 | N3 |
| Steelhead (South-central CA coast)* | *O. m. irideus* | FT, CH | | CSC | | N1 | N3 | N3 |
| Little Kern golden trout | *O. m. whitei* | FT, CH | | | | N3 | N3 | N1 |
| **Amphibians** | | | | | | | | |
| CA tiger salamander (Cen CA DPS) | *Ambystoma californiense* | FT, CH | | CSC | | N3 | L1 | H |
| CA tiger salamander (SB DPS) | *A. californiense* | FE, CH | | CSC | | H | N3 | N3 |
| Arroyo toad | *Anaxyrus californicus* | FE, CH | | CSC | | LI | LI | N3 |
| Kern Canyon slender salamander | *Batrachoseps simatus* | | | CT | | N3 | N3 | M2 |
| Tehachapi slender salamander | *B. stebbinsi* | REV | BLMS | CT | | N3 | N3 | K |

**Table B-5**
**Special Status Animal Species in the Bakersfield FO Planning Area**

| | | Status | | | | Occurrence | | |
|---|---|---|---|---|---|---|---|---|
| **Common Name** | ***Scientific Name*** | **Federal** | **BLM** | **State** | **Other** | **C** | **V** | **S** |
| Relictual slender salamander | *B. relictus* | | | CSC | | N3 | N3 | L1 |
| Breckenridge Mountain slender salamander | *B. sp.* | | | CSC | | N3 | N3 | L2 |
| Yellow-blotched salamander | *Ensatina eschscholtzi croceater* | | BLMS | CSC | | M2 | N3 | M2 |
| Foothill yellow-legged frog | *Rana boylei* | | BLMS | CSC | | M1 | N3 | L1 |
| California red-legged frog | *R. draytoni* | FT, CH | | CSC | AWL | M1 | L1 | L1 |
| Mtn yellow-legged frog (So. CA DPS) | *R. muscosa* | FE, CH | | | | N3 | N3 | N3 |
| Mtn yellow-legged frog (Sierran DPS) | *R. muscosa* | FC | | | | N3 | N3 | N2 |
| Western spadefoot toad | *Scaphiopus hammondi* | | BLMS | CSC | | M1 | K | L1 |
| **Reptiles** | | | | | | | | |
| Northwestern pond turtle | *Actinemys marmorata marmorata* | | | CSC | | N3 | M1 | K |
| Southwestern pond turtle | *A. m. pallida* | | BLMS | CSC | | K | M1 | K |
| Blunt-nosed leopard lizard | *Gambelia sila* | FE | | CE, FP | | M1 | K | N3 |
| Coast horned lizard | *Phrynosoma blainvillei* | | BLMS | CSC | | H | K | N3 |
| Northern sagebrush lizard | *Sceloporus graciosus graciosus* | | BLMS | | | M1 | L1 | M1 |
| Island night lizard | *Xantusia riversiana* | FT | | CSC | | N1 | N3 | N3 |
| Sierra night lizard | *X. sierrae* | | | CSC | | N3 | N3 | L1 |
| California legless lizard | *Anniella pulchra* | | | CSC | | H | K | H |
| Southern rubber boa | *Charina bottae umbratica* | | | CT | | M2 | N3 | N3 |
| California mountain kingsnake | *Lampropeltis zonata* | | BLMS | | | M1 | N3 | H |
| San Joaquin whipsnake | *Masticophis flagellum ruddocki* | | | CSC | | H | H | H |
| Giant garter snake | *Thamnophis gigas* | FT | | CT | | N3 | L1 | N3 |
| Two-striped garter snake | *T. hammondii* | | BLMS | CSC | | M1 | L1 | N3 |

**Table B-5**
**Special Status Animal Species in the Bakersfield FO Planning Area**

| | | Status | | | | Occurrence | | |
|---|---|---|---|---|---|---|---|---|
| **Common Name** | ***Scientific Name*** | **Federal** | **BLM** | **State** | **Other** | **C** | **V** | **S** |
| **Birds** | | | | | | | | |
| Aleutian Canada goose | *Branta canadensis leucopareia* | REC | | | | N1 | L1 | N1 |
| Barrow's goldeneye | *Bucephala islandica* | | | CSC | | N1 | N1 | L1 |
| Fulvous whistling-duck | *Dendrocygna bicolor* | | | CSC | | L1 | L1 | L1 |
| Harlequin duck | *Histrionicus histrionicus* | | | CSC | | N1 | N1 | L1 |
| Mountain quail | *Oreotyx pictus* | | | | AWL | K | K | K |
| Common loon | *Gavia immer* | | | CSC | | N1 | N1 | N1 |
| Fork-tailed storm-petrel | *Oceanodroma furcata* | | BLMS | CSC | | L2 | N3 | N3 |
| Ashy storm-petrel | *O. homochroa* | | BLMS | CSC | AWL | M2 | N3 | N3 |
| Black storm-petrel | *O. melania* | | | CSC | AWL | L2 | N3 | N3 |
| American white pelican | *Pelecanus erythrorhynchos* | | | CSC | | N1 | K | K |
| California brown pelican | *P. occidentalis californicus* | REC | BLMS | CE | | K | N1 | N1 |
| Western least bittern | *Ixobrychus exilis hesperis* | | | CSC | | L1 | L1 | N1 |
| California condor | *Gymnogyps californianus* | FE, CH | | CE | AWL | K | K | K |
| Northern goshawk | *Accipiter gentilis* | | BLMS | CSC | | L1 | L1 | L2 |
| Golden eagle | *Aquila chrysaetos* | | BLMS | FP | | K | K | K |
| Swainson's hawk | *Buteo swainsoni* | | BLMS | CT | AWL | M2 | K | M2 |
| Northern harrier | *Circus cyaneus* | | | CSC | | H | K | K |
| White-tailed kite | *Elanus leucurus* | | BLMS | FP | | K | K | M2 |
| Bald eagle | *Haliaeetus leucocephalus* | REC | BLMS | CE, FP | | M2 | H | M2 |
| American peregrine falcon | *Falco peregrinus anatum* | REC | | REC, FP | | K | H | M2 |
| California black rail | *Laterallus jamaicensis coturniculus* | | BLMS | CT, FP | AWL | N1 | N3 | N3 |
| Light-footed clapper rail | *Rallus longirostris levipes* | FE | | CE, FP | | N1 | N3 | N3 |
| California clapper rail | *R. l. obsoletus* | FE | | CE, FP | | N1 | N3 | N3 |
| Greater sandhill crane | *Grus canadensis tabida* | | | CT, FP | | L1 | L1 | L1 |
| Western snowy plover (interior) | *Charadrius alexandrinus nivosus* | | | CSC | | N3 | K | N2 |

**Table B-5**
**Special Status Animal Species in the Bakersfield FO Planning Area**

| | | Status | | | | Occurrence | | |
|---|---|---|---|---|---|---|---|---|
| **Common Name** | ***Scientific Name*** | **Federal** | **BLM** | **State** | **Other** | **C** | **V** | **S** |
| Western snowy plover (coast) | *C. a. nivosus* | FT, CH | | CSC | AWL | H | N3 | N3 |
| Mountain plover | *C. montanus* | | BLMS | CSC | AWL | M2 | K | M1 |
| Long-billed curlew | *Numenius americanus* | | | | AWL | H | K | N3 |
| Black tern | *Chlidonias nigre* | | | CSC | | L1 | L1 | L1 |
| California least tern | *Sterna antillarum browni* | FE | | CE, FP | | H | N3 | N3 |
| Elegant tern | *Thalasseus elegans* | | | | AWL | H | N3 | N3 |
| Marbled murrelet | *Brachyramphus marmoratus* | FT, CH | | CE | AWL | H | N3 | N3 |
| Tufted puffin | *Fratercula cirrhata* | | | CSC | | L2 | N3 | N3 |
| Xanthus murrelet | *Synthliboramphus hypoleucus* | FC | BLMS | CT | AWL | N2 | N3 | N3 |
| Western yellow-billed cuckoo | *Coccyzuz americanus occidentalis* | FC | BLMS | CE | | N3 | L1 | L1 |
| Short-eared owl | *Asio flammeus* | | | CSC | AWL | M1 | H | M1 |
| Long-eared owl | *A. otus* | | | CSC | | L2 | L2 | H |
| Burrowing owl | *Athene cunicularia* | | BLMS | CSC | | M1 | K | M2 |
| Flammulated owl | *Otus flammeolus* | | | | AWL | H | H | H |
| California spotted owl | *Strix occidentalis occidentalis* | | BLMS | CSC | AWL | M1 | M1 | K |
| Black swift | *Cypseloides niger* | | | CSC | AWL | L2 | L2 | M2 |
| Costa's hummingbird | *Calypte costae* | | | | AWL | H | N3 | H |
| Allen's hummingbird | *Selasphorus sasin* | | | | AWL | H | N3 | N3 |
| White headed woodpecker | *Picoides albolarvatus* | | | | AWL | H | H | H |
| Olive-sided flycatcher | *Contopus cooperi* | | | CSC | AWL | N3 | H | H |
| Willow flycatcher | *Empidonax traillii* | | | CE | AWL | L1 | N3 | H |
| Southwestern willow flycatcher | *E. t. extermis* | FE, CH | | CE | AWL | N3 | N3 | K |
| Vermilion flycatcher | *Pyrocephalus rubinus* | | | CSC | | L1 | L1 | L1 |
| Loggerhead shrike | *Lanius ludovicianus* | | | CSC | | K | K | K |
| Least bell's vireo | *Vireo bellii pusillus* | FE, CH | | CE | AWL | N2 | N2 | N2 |
| Gray vireo | *V. vicinior* | | BLMS | CSC | AWL | N3 | N3 | M2 |
| Purple martin | *Progne subis* | | | CSC | | L1 | L1 | L1 |
| Bank swallow | *Riparia riparia* | | BLMS | CT | | L1 | L1 | L1 |
| Oak titmouse | *Baeolophus inornatus* | | | | AWL | H | H | N3 |
| Coastal California gnatcatcher | *Polioptila californica californica* | FT, CH | | CSC | AWL | L1 | N3 | N3 |
| Bendire's thrasher | *Toxostoma bendirei* | | BLMS | CSC | AWL | N3 | N3 | N3 |
| Le Conte's thrasher | *T. lecontei* | | BLMS | CSC | AWL | N1 | K | L1 |

**Table B-5**
**Special Status Animal Species in the Bakersfield FO Planning Area**

| | | Status | | | | Occurrence | | |
|---|---|---|---|---|---|---|---|---|
| **Common Name** | ***Scientific Name*** | **Federal** | **BLM** | **State** | **Other** | **C** | **V** | **S** |
| Hermit warbler | *Dendroica occidentalis* | | | CSC | AWL | H | N3 | H |
| Yellow warbler | *D. petechia brewsteri* | | | CSC | | H | H | K |
| Yellow-breasted chat | *Icteria virens* | | | CSC | | H | H | H |
| Channel Island song sparrow | *Melospiza melodia graminea* | | | CSC | | N | N | N |
| Belding's savannah sparrow | *Passerculus sandwichensis beldingi* | | | CE | | N1 | N3 | N3 |
| Large-billed savannah sparrow | *P. s. rostratus* | | | CSC | | N1 | N3 | N3 |
| Summer tanager | *Piranga rubra* | | | CSC | | N3 | N3 | L1 |
| Black chinned sparrow | *Spizella atrogularis* | | | | AWL | H | H | H |
| Kern red-winged blackbird | *Agelaius phoeniceus aciculatus* | | | CSC | | N3 | N3 | H |
| Tricolored blackbird | *A. tricolor* | | BLMS | CSC | AWL | H | H | H |
| Lawence's goldfinch | *Carduelis lawrencei* | | | | AWL | H | N3 | H |
| | | | | | | | | |
| **Mammals** | | | | | | | | |
| Buena Vista Lake shrew | *Sorex ornatus relictus* | FE, CH | | CSC | | N3 | M1 ? | N3 |
| California leaf-nosed bat | *Macrotus californicus* | | BLMS | CSC | | L1 | N3 | N3 |
| Pallid bat | *Antrozous pallidus* | | BLMS | CSC | | K | K | K |
| Townsend's western big-eared bat | *Corynorhinus townsendii* | | BLMS | CSC | | M1 | M1 | K |
| Spotted bat | *Euderma maculatum* | | BLMS | CSC | | L1 | L1 | M2 |
| Western red bat | *Lasiurus blossevillii* | | | CSC | | M1 | M1 | M1 |
| Western small-footed myotis | *Myotis ciliolabrum* | | BLMS | | | M1 | M1 | M1 |
| Long-eared myotis | *M. evotis* | | BLMS | | | M1 | M1 | M1 |
| Fringed myotis | *M. thysanodes* | | BLMS | | | M1 | M1 | K |
| Yuma myotis | *M. yumanensis* | | BLMS | | | M1 | M1 | K |
| Western mastiff-bat | *Eumops perotis californicus* | | BLMS | CSC | | M2 | H | M2 |
| San Joaquin antelope squirrel | *Ammospermophilus nelsoni* | | BLMS | CT | | L1 | K | N3 |
| Mohave ground squirrel | *Xerospermophilus mohavensis* | | BLMS | CT | | N3 | N3 | M2 |
| Morro Bay kangaroo rat | *Dipodomys heermanni morroensis* | FE, CH | | CE, FP | | L1 | N3 | N3 |

**Table B-5**
**Special Status Animal Species in the Bakersfield FO Planning Area**

| | | Status | | | | Occurrence | | |
|---|---|---|---|---|---|---|---|---|
| **Common Name** | ***Scientific Name*** | **Federal** | **BLM** | **State** | **Other** | **C** | **V** | **S** |
| Giant kangaroo rat | *D. ingens* | FE | | CE | | L1 | K | N3 |
| Short-nosed kangaroo rat | *D. nitratoides brevinasus* | | BLMS | CSC | | M2 | K | N3 |
| Fresno kangaroo rat | *D. n. exilis* | FE, CH | | CE | | N3 | L1 | N3 |
| Tipton kangaroo rat | *D. n. nitrtoides* | FE | | CE | | N3 | K | N3 |
| Yellow-eared pocket mouse | *Perognathus (parvus) xanthonotus* | | BLMS | | | N3 | N3 | M2 |
| Tehachapi white-eared pocket mouse | *P. alticola inexpectatus* | | BLMS | CSC | | M2 | M2 | M2 |
| San Joaquin pocket mouse | *P. inornatus inornatus* | | BLMS | | | H | K | H |
| Salinas pocket mouse | *P. i. psammophilus* | | | CSC | | M2 | N3 | N3 |
| Los Angeles pocket mouse | *P. longimembris brevinasus* | | | CSC | | N3 | N3 | N3 |
| San Joaquin valley woodrat | *Neotoma fuscipes riparia* | FE | | CSC | | N3 | N3 | N3 |
| Tulare grasshopper mouse | *Onychomys torridus tularensis* | | BLMS | CSC | | M2 | H | M2 |
| Island fox | *Urocyon littoralis* | FE | | CT | | N1 | N3 | N3 |
| San Joaquin kit fox | *Vulpes macrotis mutica* | FE | | CT | | K | K | N3 |
| Sierra Nevada red fox | *V. vulpes necator* | | | CT | | N3 | N3 | L1 |
| Southern sea otter | *Enhydra lutris nereis* | FT | | FP | | K | N3 | N3 |
| Southern sea otter (South of Pt. Conception) | *E. l. nereis* | EXPN | | FP | | H | N3 | N3 |
| Wolverine | *Gulo gulo luscus* | FC | | CT, FP | | N3 | N3 | L1 |
| Fisher (West Coast DPS) | *Martes pennanti* | FC | BLMS | CSC | | N3 | N3 | K |
| Badger | *Taxidea taxus* | | | CSC | | K | K | H |
| Guadalupe fur seal* | *Arctocephalus townsendi* | FT | | CT, FP | | L1 | N3 | N3 |
| Northern sea lion (eastern pop.)* | *Eumetopias jubatus* | FT, CH | | | | K | N3 | N3 |
| CA bighorn sheep (Sierra Nevada pop.) | *Ovis canadensis sierrae* | FE, CH | | CE, FP | | N3 | N3 | N2 |
| Blue whale* | *Balaenoptera musculus* | FE | | | | L | N | N |
| Gray whale* | *Eschrichtius robustus* | REC | | | | K | N | N |
| Humpback whale* | *Megaptera novaeangliae* | FE | | | | H | N | N |

**KEY:**

**FEDERAL STATUS**
**FE =** Federal Endangered
**FT =** Federal Threatened
**FC =** Federal Candidate
**REC =** Recovered
**REV** = Under Review
**CH =** Designated Critical Habitat
**PCH =** Proposed Critical Habitat

**BLM STATUS**
**BLMS =** BLM California Sensitive Species

**STATE STATUS**
**CE =** California Endangered
**CT =** California Threatened
**CSC =** California Species of Special Concern
**FP =** Fully Protected Species

**OTHER**
**AWL =** American Bird Conservancy Watchlist
***** = National Marine Fisheries Service species

**OCCURRENCE** on Public Land
**C =** Coast Region
**V =** Valley Region
**S =** Sierra Region

**K =** Known to occur on public lands
**H =** Highly likely
**M1 =** Likely, but limited habitat
**M2 =** Likely, but localized species
**L =** Unlikely
**L1 =** Unlikely, localized species and limited habitat
**L2 =** Unlikely, very localized species
**N =** Very unlikely
**N1 =** Very unlikely, no suitable habitat
**N2 =** Very unlikely, limited suitable habitat exists but known no to be occupied
**N3 =** Very unlikely, outside normal range
**U =** Unknown

# *Appendix D*

# *Wildland Fire Ecology and Management*